

# Missouri Workforce Investment System

## 2005 Performance Scorecard



January 2006

# I. Overview

## Creating a Performance Scorecard

As part of the Missouri Training and Employment Council's (MTEC) efforts to provide an ongoing assessment of the state of Missouri's workforce, the Council deployed a performance scorecard for the state's \$1.8 billion workforce investment system in 2004. Through the Scorecard, the Council encouraged Missouri's workforce investment system to focus on value-added services for its customers (students, businesses and job seekers) and thereby produce a better return on the tax dollars invested in the system.

The Council worked with the Corporation for a Skilled Workforce (a nationally recognized consulting firm) to develop a set of leading and lagging indicators to assess the system's performance. The MTEC Education and Training Committee and Missouri's Workforce Policy Academy Team met several times in 2004 to refine the Scorecard and ensure that the measures were meaningful. Workforce Investment Board Chairs and Administrators have also influenced the development of the Scorecard. The MTEC Workforce Investment Board Committee reviewed and approved the Performance Scorecard on June 18 and full Council approved the final format on June 25, 2004.

The Missouri Economic Research and Information Center (MERIC) began the data collection and analysis process for the 2004 Performance Scorecard report on July 1. Preliminary results were presented to the MTEC WIB Committee on September 10 and to the full Council on October 5, 2004.

Based on feedback from these meetings, MERIC refined the assessment model and published the *2004 Workforce Investment System Performance Scorecard* in January of 2005. This report, the *2005 Workforce Investment System Performance Scorecard*, is an update of the 2004 report. The Scorecard includes measures in three major performance categories: 1) Missouri Career Centers; 2) Missouri's Educational System; and 3) Missouri's Economy.

## Evaluating System Performance

It is critical that Missouri's state and local workforce investment boards, career centers (One-Stop centers), education entities, and economic development entities be able to evaluate collective system performance and determine whether their integrated efforts are moving toward their vision of excellence. Education outcomes reflect success in developing a skilled and educated citizenry; skilled and educated citizens become productive employees and contribute to the economic prosperity of the state; and economic prosperity leads to a quality of life Missouri can use to draw both business and new citizens. One way to address this need is to talk about a balanced scorecard of performance *measures and indicators*.

### Why Use A Balanced Scorecard Approach

A balanced scorecard of indicators provides a variety of measures to guide planning and tactical decisions. Consider the dashboard of a car. It has many indicators of your car's ultimate ability to take you where you want to go. The outcome measure is whether you reached your destination on time, and the indicators on your dashboard tell you what your odds are of meeting the outcome. If you look solely at the speed but ignore the gas gauge, running out of gas could cause you to be late even if you maintain a high speed. If you focus on the RPMs and ignore engine-warning lights, you may also jeopardize your ability to attain the desired outcome. Having a half tank of gas versus a full tank of gas doesn't necessarily mean you are going to fail. You merely use that indicator to decide whether you need to buy more gasoline, considering how far away you are from your destination.

Similarly, businesses and governmental agencies must determine what measures and indicators they need to examine on a regular basis. The balanced scorecard is used, not only by management to observe whether the system is on course, but also as a means of communication. The indicators clarify policy direction and priorities and allow employees to direct their energy toward desired results.

# Missouri's Economic System Scorecard

- 😞 Poverty Rate
- 😞 Wage Gain
- 😞 Median Household Income
- 😞 Industry Diversity
- 😞 Value of Goods and Services Exported
- 😞 Gross State Product
- 😞 New Businesses Established
- 😞 Businesses Declaring Bankruptcy
- 😞 Permanent Job Loss
- 😞 New Job Creation
- 😞 Total Labor Force Participation
- 😞 Unemployment Rate
- 😞 Non-Violent Crime

# Missouri's Education System Scorecard

## Leading Indicators

- 😞 MAP Scores in K-12 (Communication Arts & Math)
- 😞 Students Enrolled in AP Classes
- 😞 ACT Scores (Subscale Scores)
- 😞 TIMSS Scores (Math & Science)

## Lagging Indicators

- 😞 Graduation Rates (Secondary)
- 😞 Drop Out Rates (Secondary)
- 😞 Students Entering Post-Secondary Education
- 😞 Students Completing Post-Secondary Education
- 😞 Remediation Rates (Reading & Math)
- 😞 Adult Literacy Rates
- 😞 Education Attainment
- 😞 GED Attainment

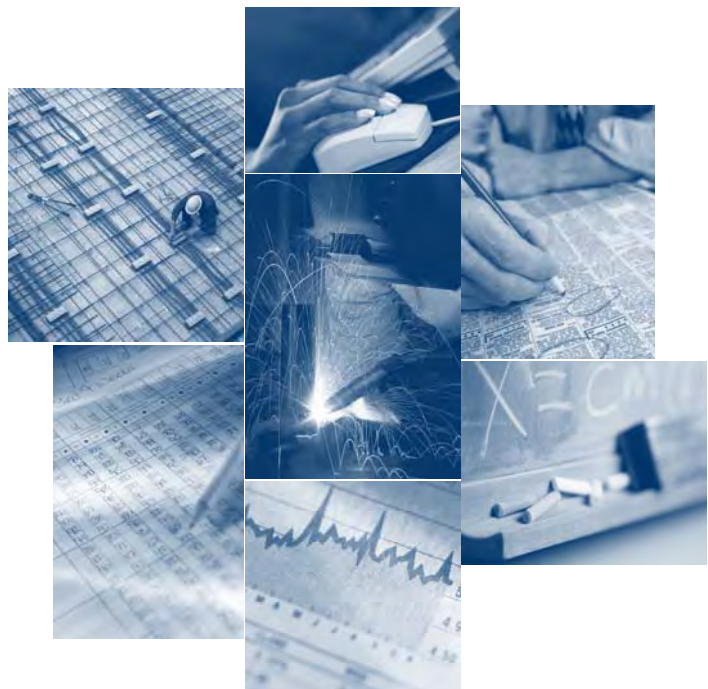
# Missouri's Career Center Scorecard

## Outcomes for Employer Customers

- 🙄 **Employer Satisfaction**
- 😬 **Market Penetration**
- 😊 **Cycle-time**

## Outcomes for Individual Customers

- 🙄 Customer Satisfaction
- 🙄 Increased Earnings
- 😊 Entered Employment Rate
- 🙄 Market Penetration
- 😊 Training-related Credential
- 😊 Employment Retention



# Table of Contents

## **I. Overview . . . . . 2-3**

Summary Scorecards . . . . . 4-5

## **II. Missouri's Economic System Scorecard . . . . . 8**

Poverty Rate . . . . . 9

Wage Gain . . . . . 10

Median Household Income . . . . . 11

Industry Diversity . . . . . 12

Value of Goods and Services Exported . . . . . 13

Gross State Product . . . . . 14

New Businesses Established . . . . . 15

Businesses Declaring Bankruptcy . . . . . 16

Permanent Job Loss . . . . . 17

New Job Creation . . . . . 18

Total Labor Force Participation . . . . . 19

Unemployment Rate . . . . . 20

Non-Violent Crime . . . . . 21

## **III. Missouri's Education System Scorecard . . . . . 22**

Leading Indicators . . . . . 23

MAP Scores in K-12 (Communication Arts & Math) . . . . . 23

Students Enrolled in AP Classes . . . . . 24

ACT Scores (Subscale Scores) . . . . . 25

TIMSS Scores (Math & Science) . . . . . 26

Lagging Indicators . . . . . 27

Graduation Rates (Secondary) . . . . . 27

Drop Out Rates (Secondary) . . . . . 28

Students Entering Post-Secondary Education . . . . . 29

Students Completing Post-Secondary Education . . . . . 30

Remediation Rates (Reading & Math) . . . . . 31

Adult Literacy Rates . . . . . 32

Education Attainment . . . . . 33

GED Attainment . . . . . 34

## **IV. Missouri's Career Center Scorecard . . . . . 35**

### **Outcomes for Employer Customers . . . . . 36**

**Employer Satisfaction . . . . . 36**

**Market Penetration . . . . . 37**

**Cycle-Time . . . . . 38**

### **Outcomes for Individual Customers . . . . . 39**

**Customer Satisfaction . . . . . 39**

**Increased Earnings . . . . . 40**

**Entered Employment Rate . . . . . 41**

**Market Penetration . . . . . 42**

**Training Related Credential . . . . . 43**

**Employment Retention . . . . . 44**

## **V. Implications & Summary . . . . . 45-48**

## **VI. Sources . . . . . 49-52**

## **VII. Acknowledgements . . . . . 53**



## II. Missouri's Economic System Scorecard

The Economic System Scorecard measures Missouri's performance against the nation's on various economic measures. Measures such as industry diversity, gross state product, and new businesses established reflect the state's ability to develop, maintain, and support industry growth. Other measures such as poverty rate, wage gain, unemployment, and median income describe the quality of life that the state's population maintains year after year.

The data show that Missouri has an extremely diverse mix of industries when compared to the most diverse of economies, the national

economy. Despite this array of industries, the state's economy has felt the impact of the national recession in many ways.

Median household income has significantly declined from the high levels that were seen before the tech stock bubble burst in 2000-2001. The rate of individuals that are unemployed and in poverty has also continued to increase since 2000, which is consistent with national trends. The number of new businesses established in Missouri continues to grow but at a much slower rate than seen in previous years.



Good signs of economic recovery are also shown with the data. The value of goods and services produced in the state (GSP) has grown at a rate matching the national economy at a time when over half of the other states have seen a decline in GSP. The value of goods and services exported from Missouri has grown to total \$8.9 billion and has increased at a rate that exceeds national export growth. The number of non-violent crimes reported in the state has decreased somewhat over the past few years. A steady gain in the real wages that Missouri workers earn over time is also evident in the data.

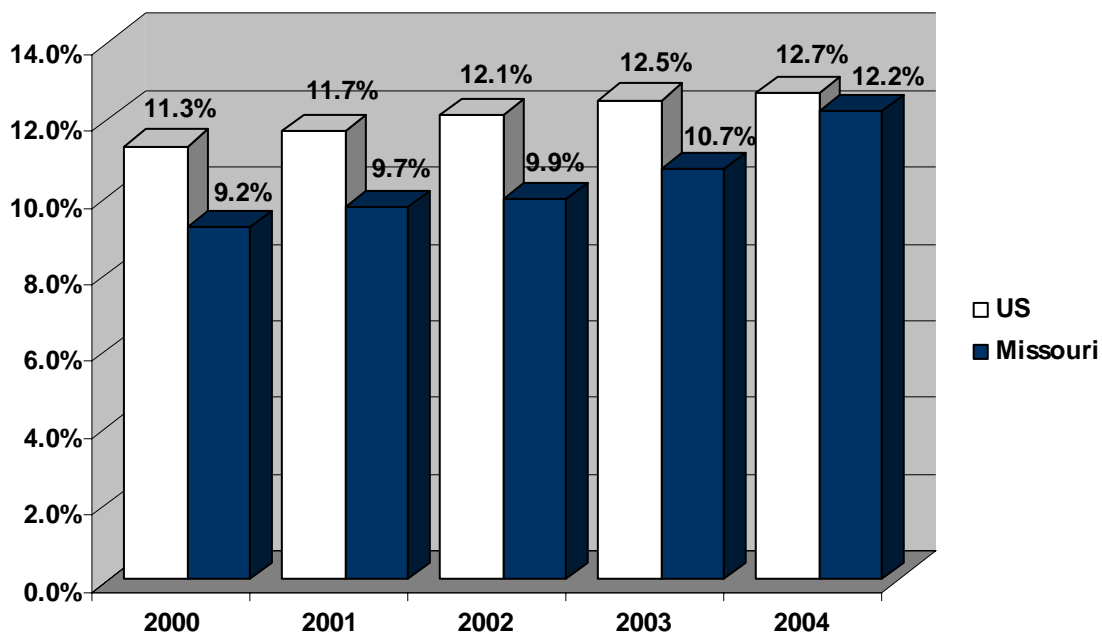


# Poverty Rate

The Missouri poverty rate is measured by the percentage of adults considered to be in poverty. The standards for poverty are set by the Federal government. Poverty threshold is first determined by size of family, age of family members, as well as various sources of income available to the family. A family whose income is at or above a determined poverty threshold is not in poverty. A family whose income is below a poverty threshold is determined to be in poverty.

- In the United States, the poverty rate increased 3.31% from the year 2002 to 2003. From 2003 to 2004 the rate increased 1.60%, a slightly smaller increase than shown in the previous years.
- In Missouri, the poverty rate increased 8.08% from the year 2002 to 2003. From 2003 to 2004 the rate increased 14.02%, a significantly larger increase than shown in the previous years and also significantly larger than the national poverty rate increase.

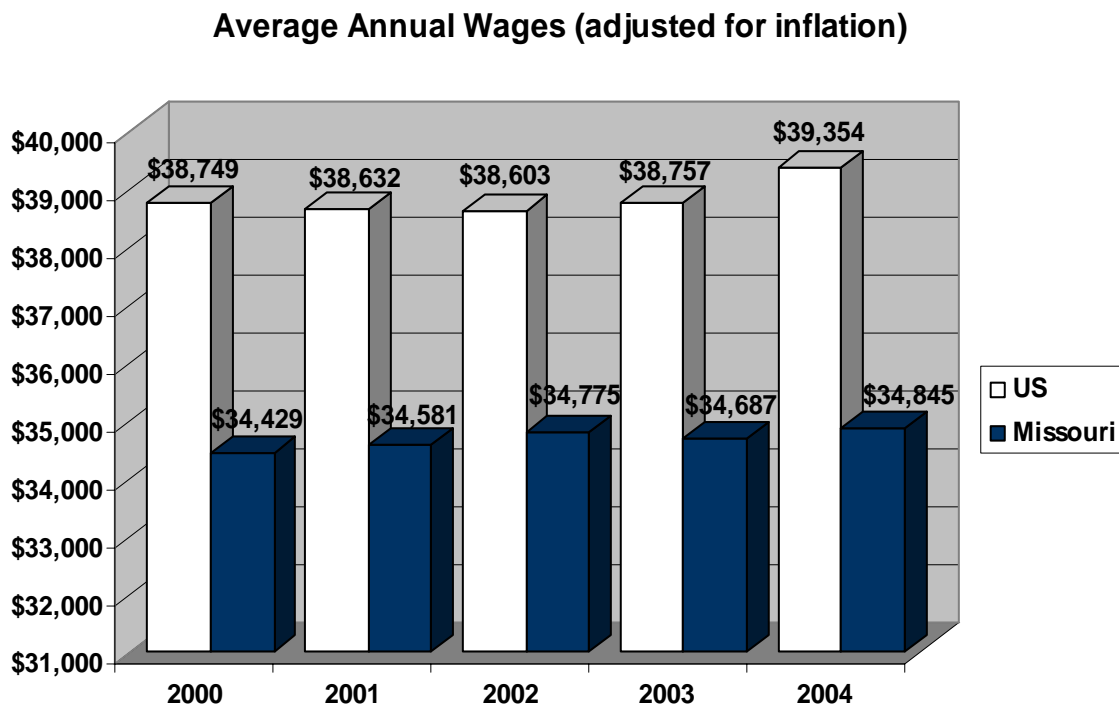
**Annual Missouri Poverty Rate**



# Wage Gain

The wage gain for workers in Missouri is an average of the total working population's wages for a year. The information is collected annually and is converted into real wages to adjust for inflation over time.

- In the United States, the average wage decreased from \$38,749 in 2000 to \$38,632 in 2001. From 2001 to 2002, average wages decreased slightly from \$38,632 to \$38,603. In 2004, average national wages eventually increased to \$39,354.
- In Missouri, the average wage increased from \$34,429 in 2000 to \$34,581 in 2001. From 2001 to 2002, average Missouri wages increased from \$34,581 to \$34,775. In 2004, average wages slightly increased to \$34,845.

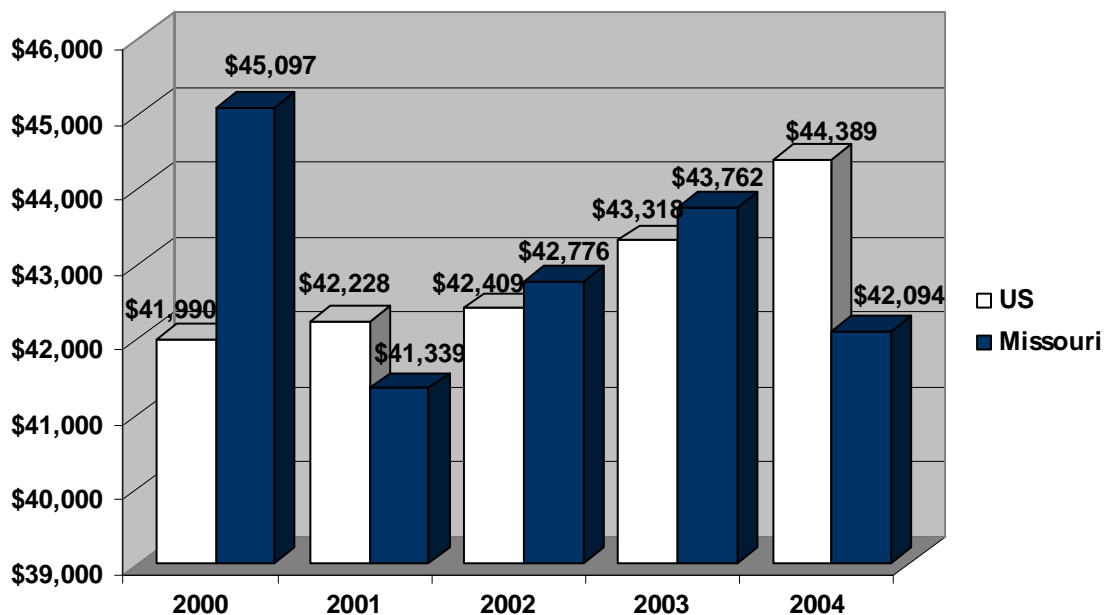


# Median Household Income

The income for a total household in Missouri is averaged to determine median household income. The increase or decrease in median household income over a period of years for a state can be compared to national income trends. This comparison can shed light on the level of good paying jobs that are available in an individual state versus the entire nation.

- In the United States, median household income increased .57% from 2000 (\$41,990/year) to 2001 (\$42,228/year). Median household income at the national level also increased by 2.47% from 2003 (\$43,318/year) to 2004 (\$44,389/year), a faster increase than in previous years.
- In Missouri, after sharply decreasing by 8.33% from 2000 (\$45,097/year) to 2001 (\$41,339/year), median household income did increase substantially from 2001 to 2003. However, from 2003 to 2004, median household income in the state sharply fell at a rate of - 3.81%, a significant deviation from the national trend.

**Missouri Median Household Income**



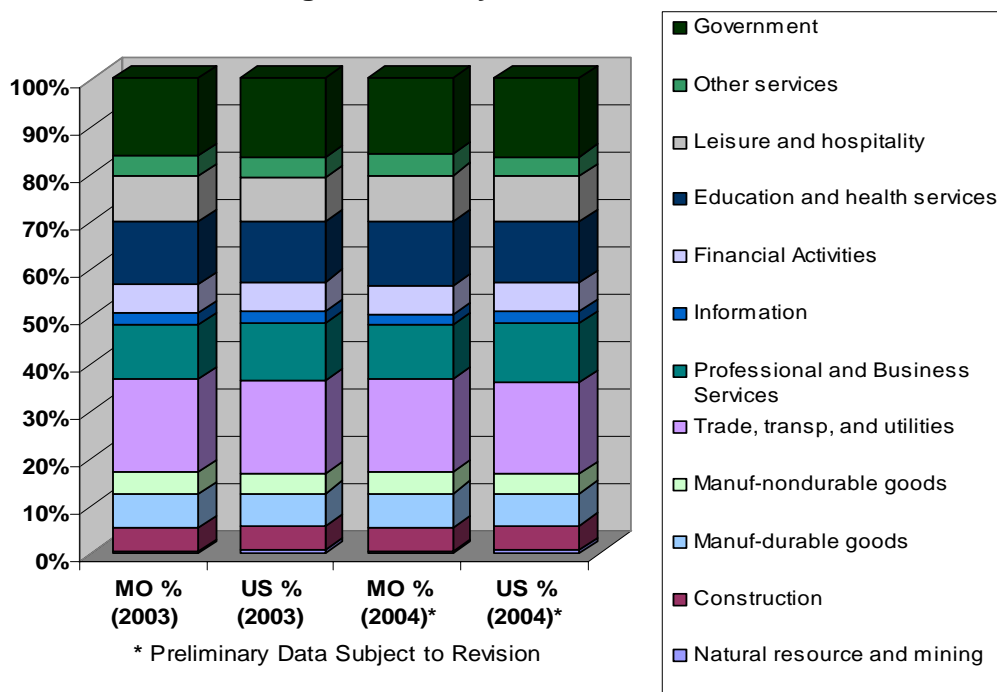
# Industry Diversity

The percentage of workers in each major industry sector in a state is a reflection of how diverse that state's workforce is. Each state's industry diversity is compared to the most diverse workforce, the national workforce.

Industry diversity is measured by the Industry Diversification Index (IDI), a simple calculation that measures the distribution of various industries within a particular area – measured by the proportionate distribution of the labor force. The IDI ranges from 0.0 to 1.0, and measures the distribution of employment across all major industries. Scores of 0.0 indicate that the state's workforce is completely diversified – that the workforce is as diverse as the national workforce. Scores of 1.0 indicate that the workforce is fully dependent on one type of industry – almost all employees are in one industry.

- Missouri's Industry Diversity as measured on the IDI was -.00001 for all industries in 2003 and -.00004 in 2004.
- These scores show that Missouri's workforce is extremely diverse when compared to the national workforce.

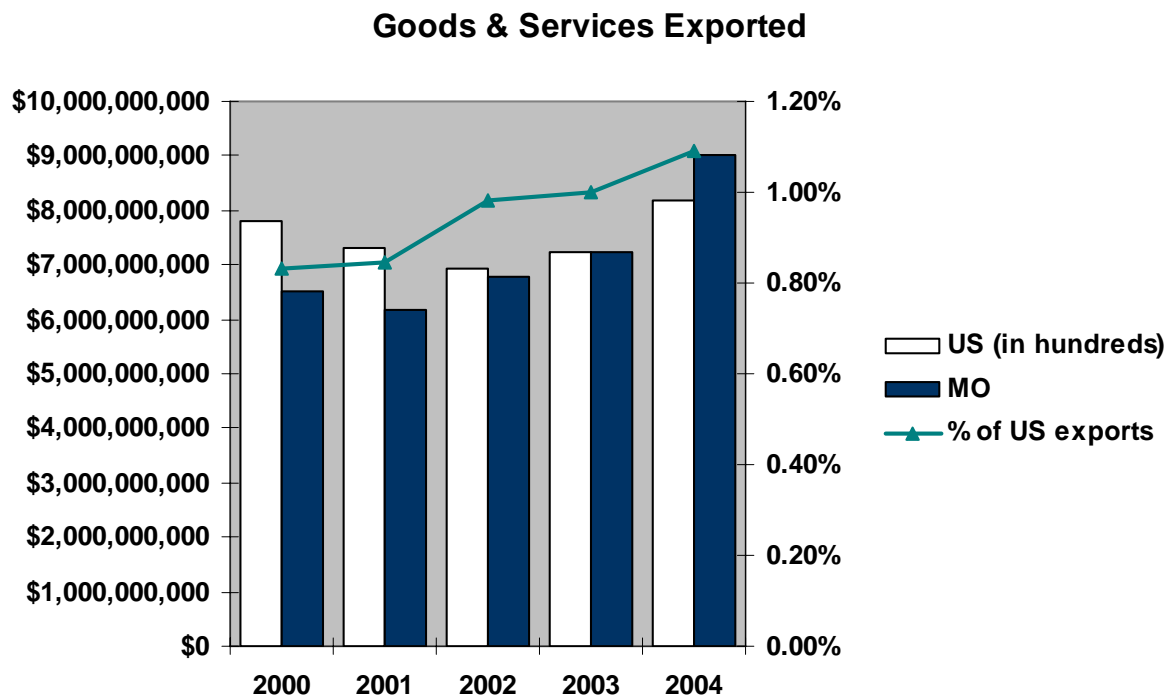
**Percentage of Industry vs. Total Workforce**



# Value of Goods & Services Exported

The amount of goods and services that an individual state exports can be compared to the total amount of exports that are produced by the nation as a whole. Dollar amounts are adjusted for inflation over time, which reflect how past dollar amounts compare to present day numbers.

- Between 2000 and 2001, Missouri exports decreased at a rate of 4.99%, from \$6.5 billion to \$6.2 billion. These numbers reflect the overall drop in the national economy in that national exports also decreased at a rate of 6.33% from \$780 billion to \$731 billion.
- Both Missouri and national exports increased from 2002 to 2003 with Missouri numbers rising at a rate of 6.53% from \$6.8 billion to \$7.2 billion. National exports rose from \$693 billion to \$723 billion.
- Between 2003 and 2004, Missouri exports rapidly grew at a rate of 23.61% from \$7.2 billion to \$8.9 billion. This rebound in exports was also felt at the national level with a 12.98% increase, from \$724 billion to \$818 billion during the same year.

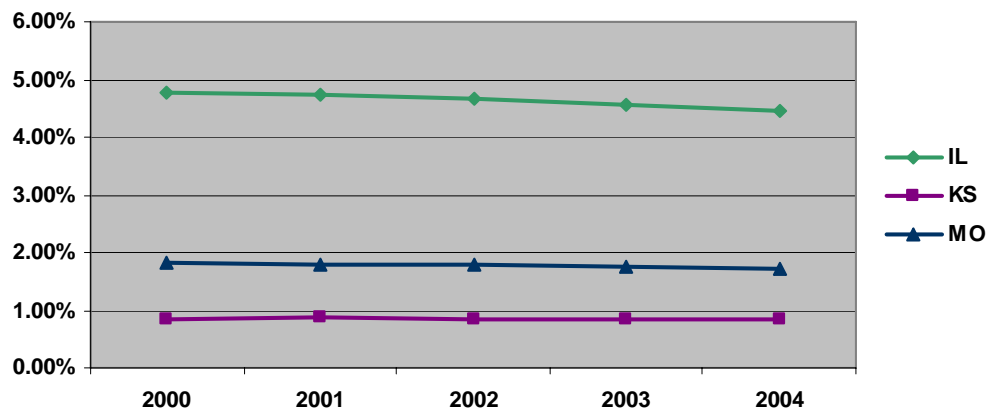


# Gross State Product

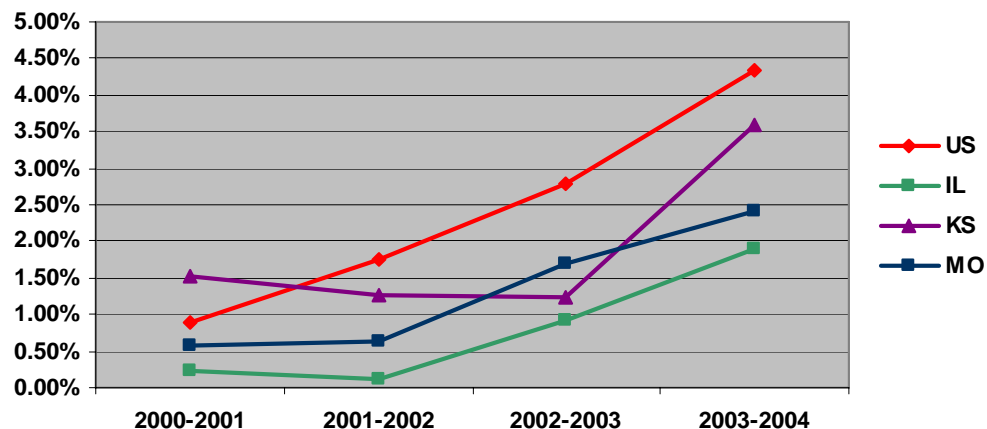
The total amount of goods and services that all Missouri industries produce is measured in dollar amounts. A higher dollar amount denotes a greater value, which directly reflects that state's ability to effectively produce a range of goods and services.

- From 2000 to 2001, Missouri's GSP increased at a rate of .40% from \$166 billion to \$167 billion, which matched the national average for growth. From 2003 to 2004, the state's GSP increased from \$181 billion to \$189 billion at a rate of 2.41%, more than keeping up with national trends.

State GSP as a % of National GDP



Percent Change of GSP



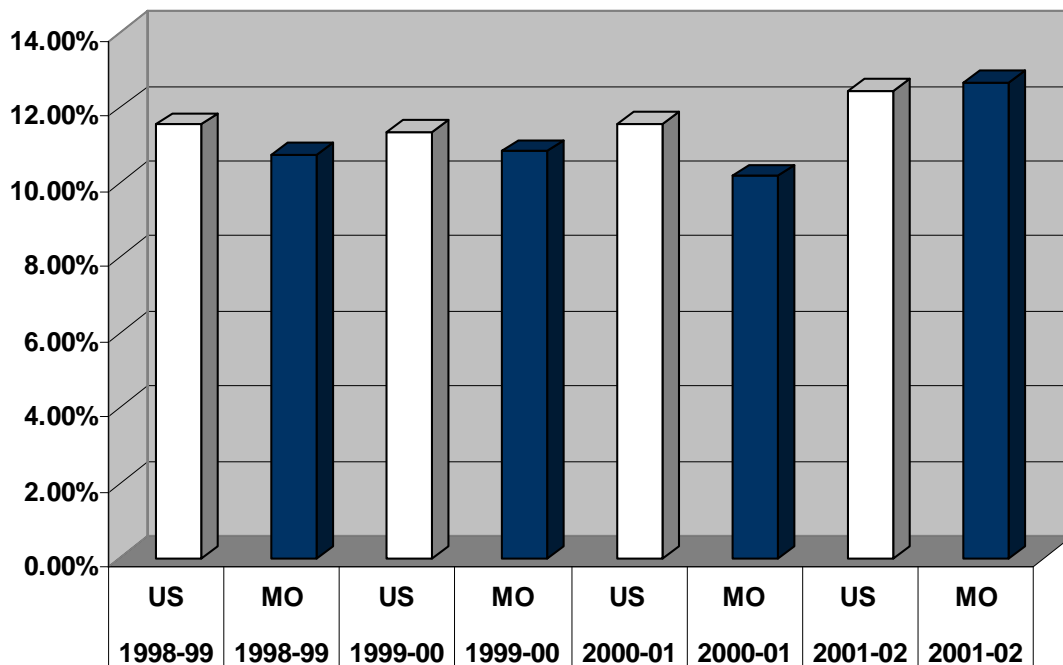


# New Businesses Established

The growth of new businesses in Missouri is calculated by taking the number of new businesses in a given year and dividing it by the total number of businesses in existence within that year.

- From 2000 to 2001, Missouri's new business growth grew 10.15% from 130,269 to 130,951 at a rate of 10.15%. The national growth rate during the same time period grew 11.55%.
- Between 2001 and 2002 the number of new businesses in Missouri continued to grow from 13,295 to 16,525 at a rate of 12.65%. During that time period Missouri outpaced national growth which was 12.41%

**Growth of New Businesses**

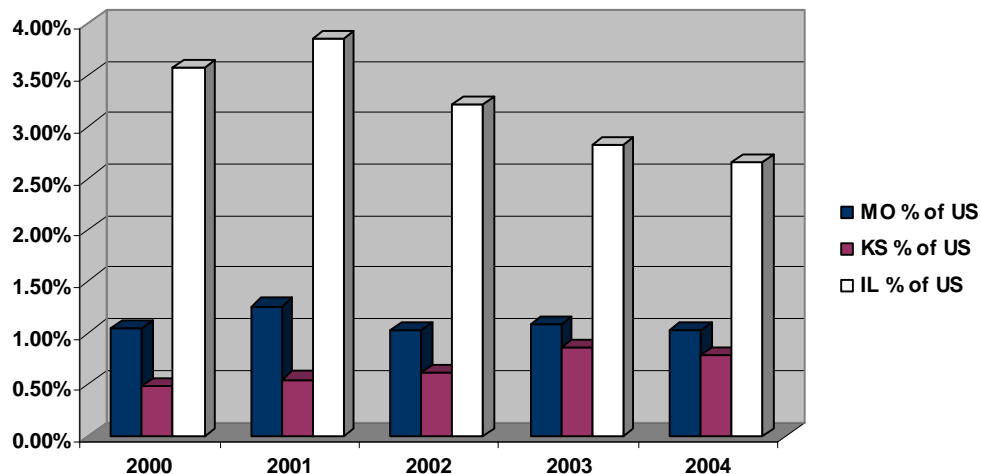


# Businesses Declaring Bankruptcy

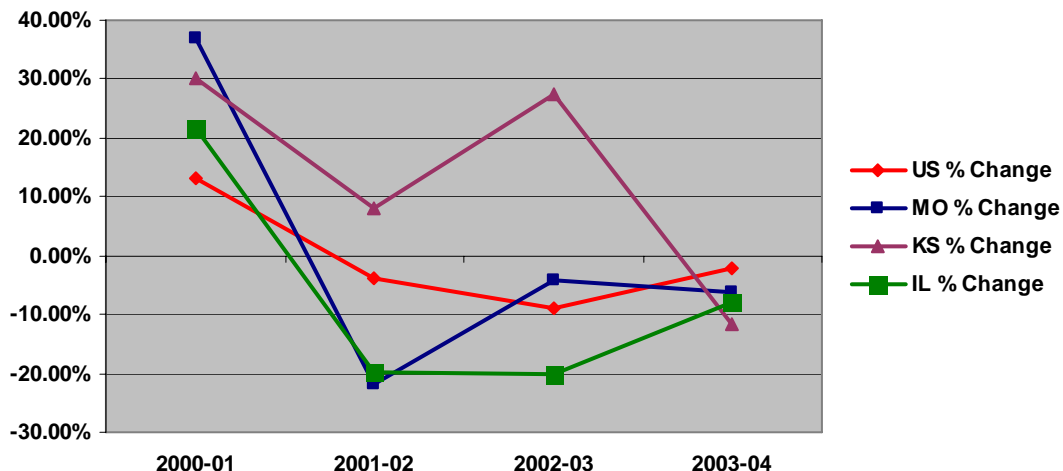
The number of businesses that declare bankruptcy in a particular area is calculated by subtracting the number of business filings from the total number of bankruptcy filings in that area.

- From 2000 to 2001 the number of businesses filing for bankruptcy in Missouri grew from 369 to 505 at a rate of 36.86%. Since 2001, this number has steadily decreased to only 354 business bankruptcy filings in 2004.

Bankruptcies as a % of Total US Bankruptcies



Change in Bankruptcies Filed

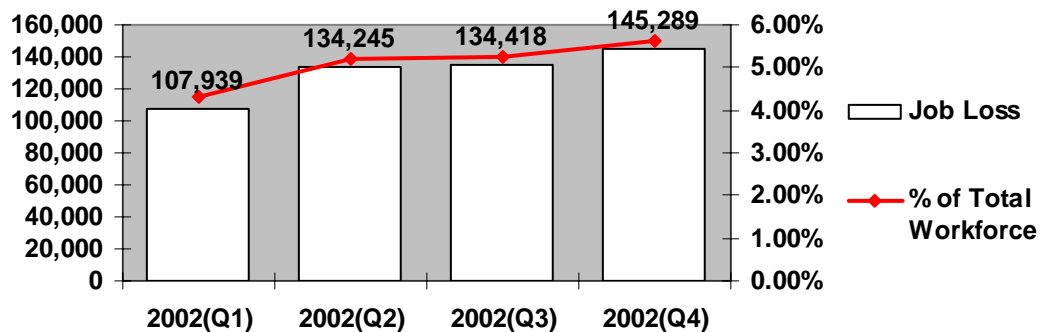


# Permanent Job Loss

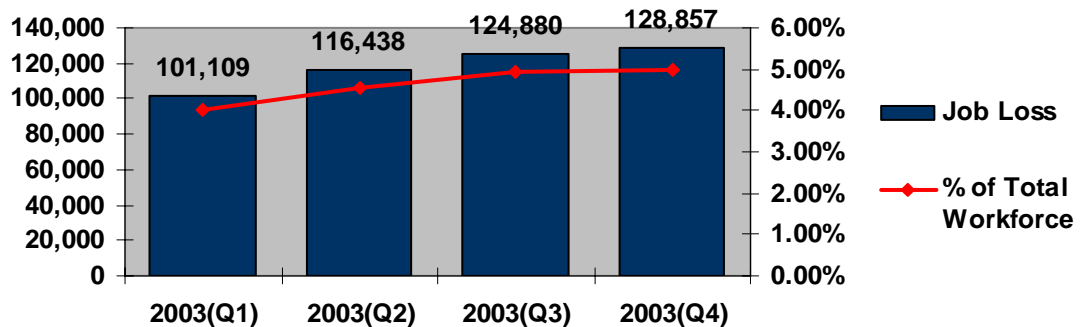
The number of jobs lost in a particular area is defined as the number of jobs lost by businesses that close or downsize employment. The percentage of the total workforce from lost jobs is measured by dividing the number of lost jobs from the total workforce.

- In Missouri, the number of jobs lost in 2002 steadily increased in all four quarters compared to 2001. The number of jobs lost as a percentage of the total workforce also steadily increased during all four quarters of 2002.
- In 2003, the number of jobs lost in Missouri in the first and fourth quarters (101,109 & 128,857) was down compared to the first and fourth quarters of 2002 (107,939 & 145,289). Jobs lost as a percentage of the total workforce in 2003 was also down from 2002.

**2002 Permanent Job Loss**



**2003 Permanent Job Loss**

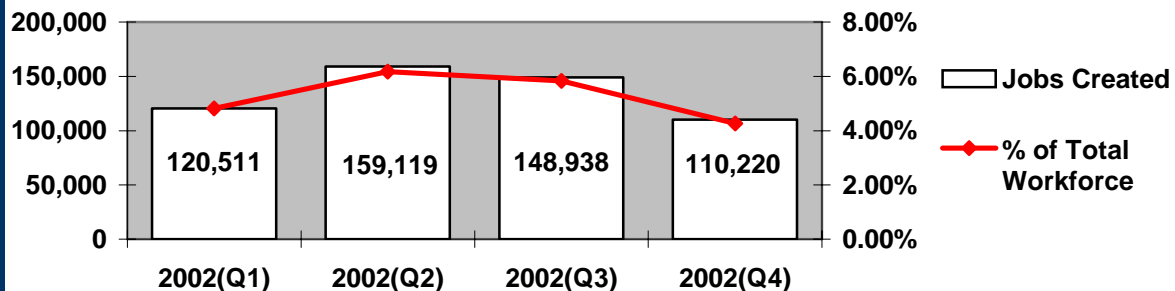


# New Job Creation

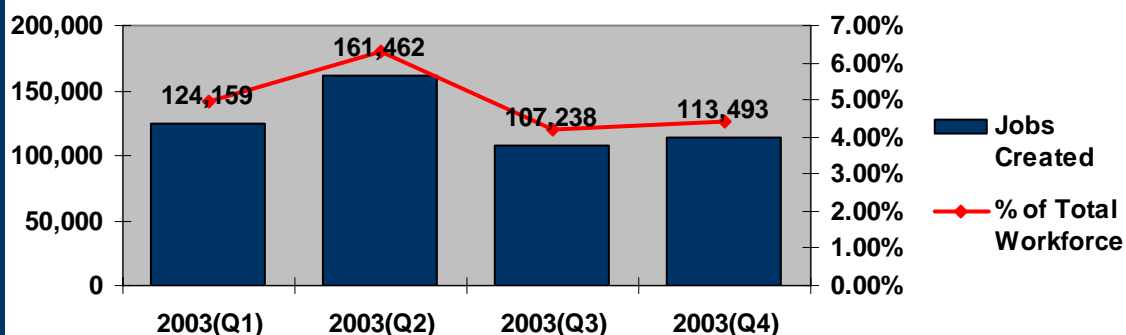
The number of jobs created in an area is defined as the number of new jobs created by either new businesses or the expansion of employment by existing firms. The percentage of the total workforce employed from newly created jobs is measured by dividing the number of created jobs from the total workforce.

- In Missouri, the number of jobs created in 2002 steadily increased through the first and second quarter and then started to drop off in the third and fourth quarters.
- In 2003, the number of jobs created increased from 124,159 to 161,462 jobs from the first to the second quarter. The number decreased from the second to the third quarter to 107,238 and remained at a lower level throughout the rest of the year.

**2002 Permanent Job Creation**



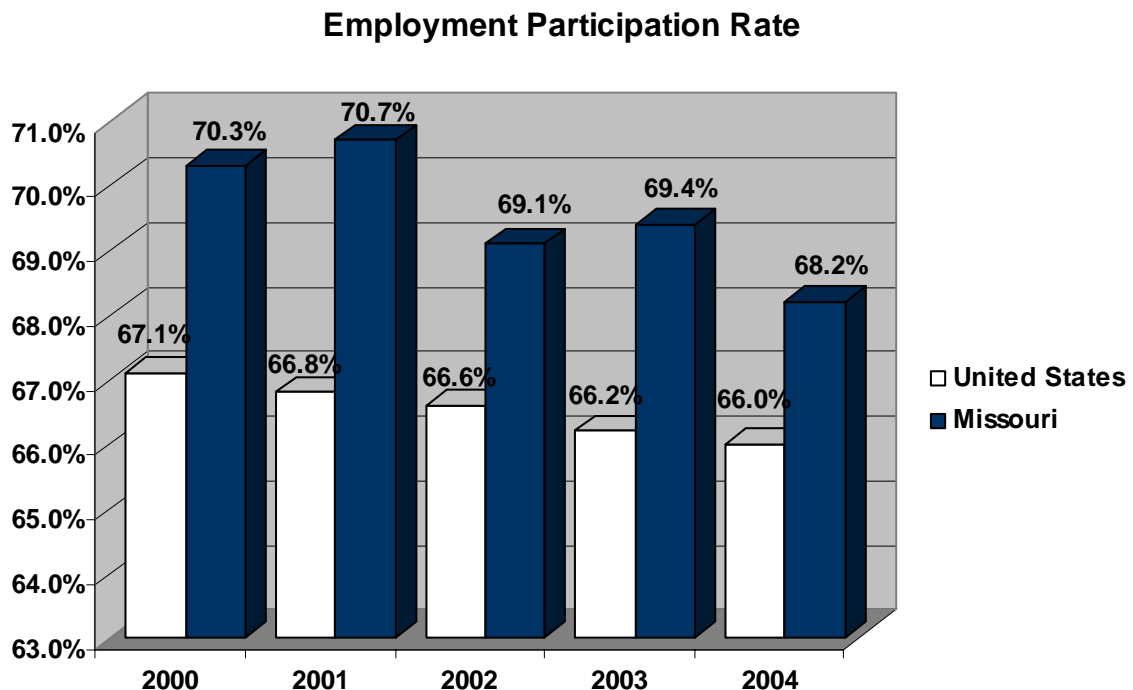
**2003 Permanent Job Creation**



# Total Labor Force Participation

The percentage of the workforce population that participates is defined by calculating the civilian labor force as a percentage of the total labor force. State total labor force participation rates can be compared to national rates to determine whether or not an adequate number of civilian workers are being utilized in the workforce.

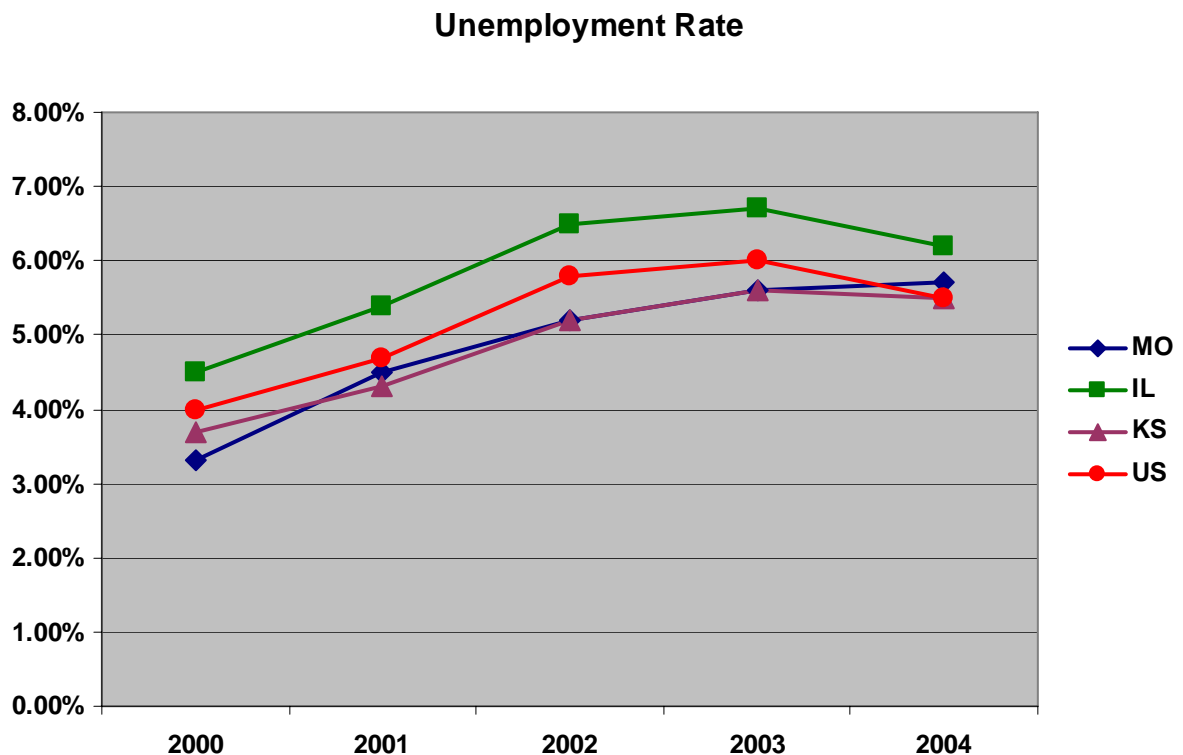
- In Missouri, the rate of total labor force participation slightly increased .57% from 2000 to 2001, higher than the national rate of  $-.45\%$ . From 2001 to 2002, the rate of Missouri employment participation sharply decreased  $-2.26\%$  which deviated from the national rate of  $-.30\%$ .
- From 2002 to 2003 the total labor force participation rate in Missouri increased .43% which was significantly higher than the decreasing national rate of  $-.60\%$ . However, from 2003 to 2004, the Missouri participation rate fell by  $-1.73\%$ , faster than the national decrease of  $-.30\%$ .



# Unemployment Rate

The unemployed population is defined as those who are over the age of 16 who were not working and were available for work. The unemployment rate is measured by calculating the number of unemployed persons as a percentage of the total labor force.

- The number of unemployed persons in Missouri has steadily risen from 2000 (96,240) to 2004 (172,208). Up to 2003, Missouri numbers reflected steadily increasing national rates.
- From 2003 to 2004, the number of unemployed persons decreased nationally. However, from 2003 to 2004 the number of unemployed workers in Missouri rose from 168,054 to 172,208.



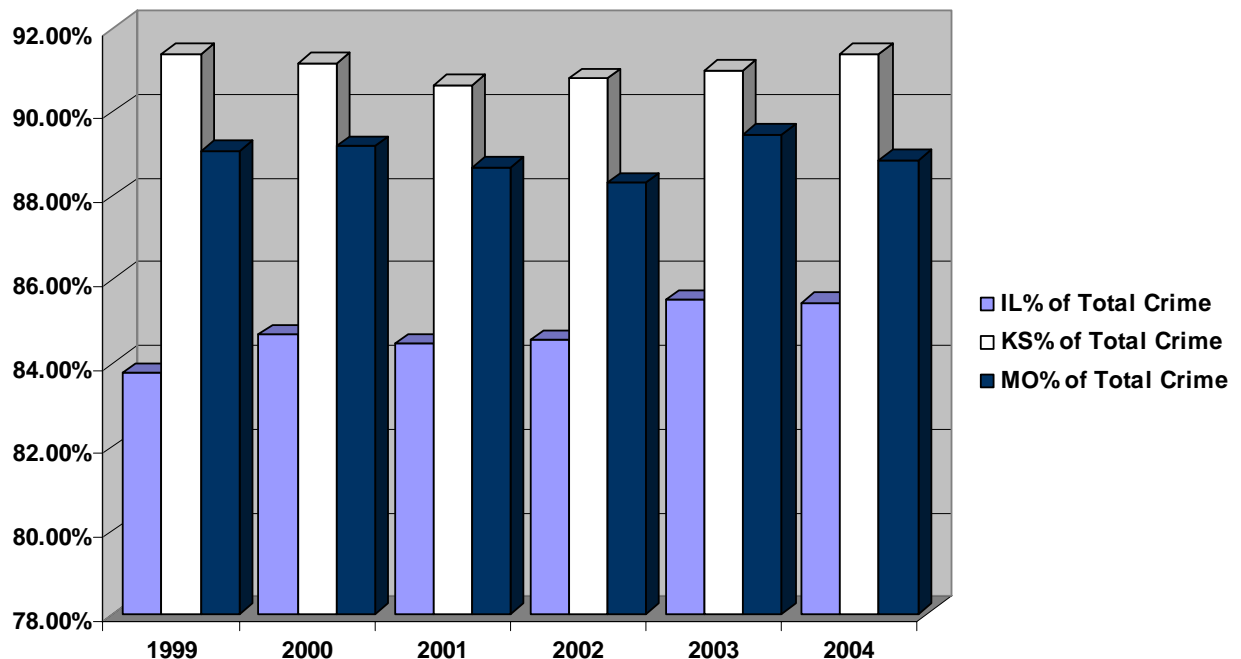


# Non-Violent Crime

Crimes that are non-violent are typically categorized as property crimes. Property crimes include: burglary, larceny-theft, and motor vehicle theft. The percentage of crime categorized as non-violent is calculated as a percentage of total crime reported.

- In Missouri, the percentage of crimes categorized as non-violent rose .11%, from 89.07% in 1999 to 89.18% in 2000. Between 2000 and 2001, the percentage of non-violent crime in Missouri decreased -.57%.
- Between 2002 and 2003, non-violent crimes as a percentage of total crimes rose from 88.30% to 89.46% at a rate of 1.32%. From 2003 to 2004, non-violent crimes decreased to 2002 levels (88.84%).

**Non-Violent Crime as a % of Total Crime**



### III. Missouri's Education System Scorecard

The education scorecard measures Missouri's performance on various indicators. Measures such as Missouri Assessment Program (MAP) scores, students enrolling in Advanced Placement courses, and ACT scores reflect how well Missouri schools prepare students for college as well as how they perform in relation to the nation. Other measures such as General Educational Development (GED) attainment, adult literacy, and educational attainment describe the general educational level of Missourians.

The data show that the state's education system is showing improvement in many areas. Enrollment of high school students in Advanced Placement (AP) and dual credit courses has steadily risen from 2000 to 2005. The percentage of high school students that graduate has also increased over the past four years with the number of students dropping out decreasing during the same time period. Other areas of strong improvement in the education system include the number of students in Missouri that complete their post-secondary education. This percentage of post-secondary completion has increased from 1999 (49.8%) to 2003 (53.3%).

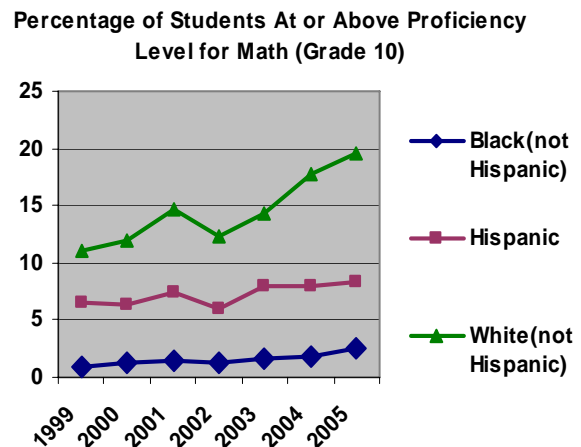
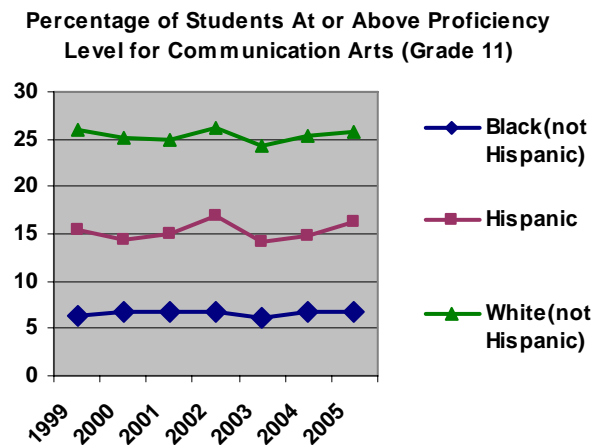
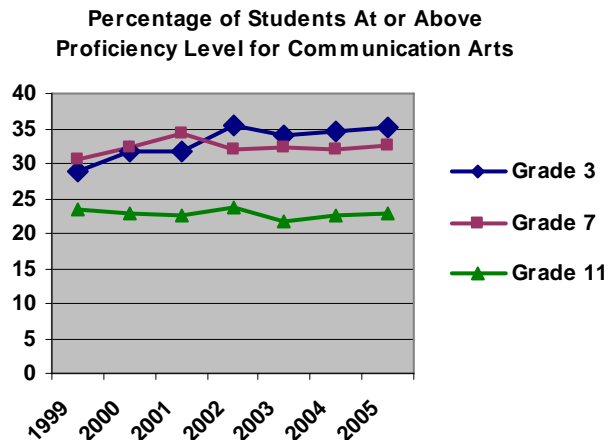
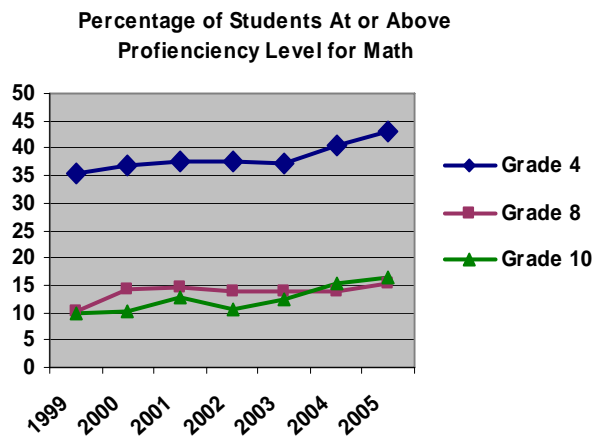
Despite the improvement in our schools, the data does indicate that certain areas in education still need our attention. Missouri student scores on the MAP have risen from 2003 to 2005 for two grade levels. However, the percentage of students that have reached the mandated level of proficiency for their age group is still less than desirable. Another

area of concern pertains to the percentage of first-time entering freshman in Missouri public institutions that are enrolled in remedial math and reading classes. The percentage of students enrolled in remedial math classes has increased from 19% in 1999 to 31% in 2004. Likewise, the percentage of students enrolled in remedial reading classes has sharply increased from 5.9% in 1999 to 11.0% in 2004.



# MAP Scores in K-12 (Communication Arts & Math)

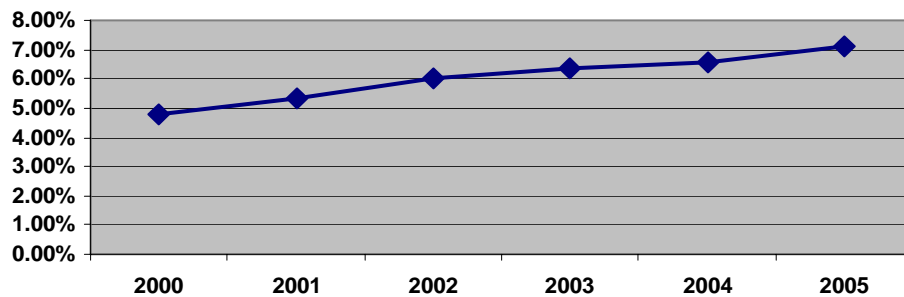
Missouri uses the Missouri Assessment Program (MAP) as required by the Outstanding Schools Act of 1993 to measure student progress toward meeting the Show-Me Standards, 73 rigorous academic standards. A five-step scale of “achievement levels” is used to classify student performance on the MAP. The level at which a student has reached the desired achievement of knowledge and skills called for by the Show-Me Standards is called *Proficient*. The MAP consists of four subjects areas: math, communication arts, science, and social studies.



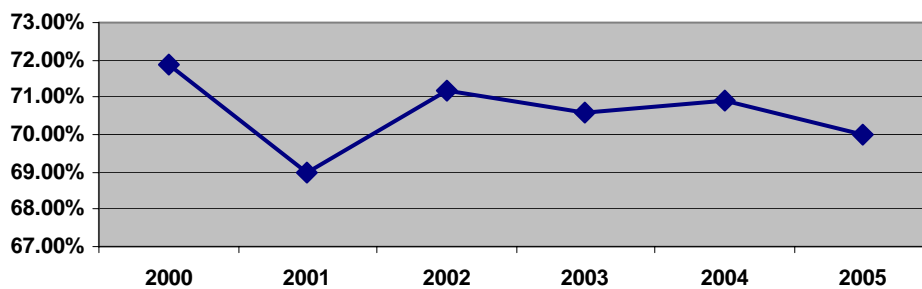
# Students Enrolled in Advanced Placement Classes

Advanced Placement courses are designed to help high school students get an early start on their college education and to prepare them for the change from high school to college courses. Exams are given at the completion of an AP course that, if scored at a 3 or above, is typically accepted by colleges and universities for course credit. The numbers of students enrolled in both AP and dual credit courses can reflect the state's ability to provide access to AP and dual credit courses.

**Percentage of 11th and 12th Grade Students Enrolled in AP Courses**



**Percentage of AP Students Scoring 3 or Higher on Exams**



**Percentage of Students Enrolled in Dual Credit Courses**

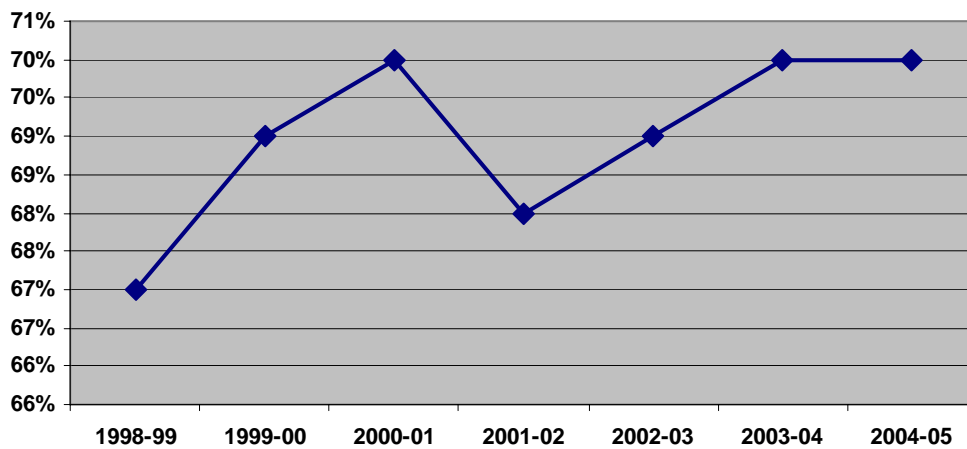
Year	Number of Students Enrolled in Dual Credit*	Number of 11th and 12th Graders	Percentage of 11th and 12th Grade Students Enrolled in Dual Credit
2000	26,784	130,890	20.46%
2001	27,759	131,407	21.12%
2002	27,662	135,947	20.35%
2003	31,869	138,585	23.00%
2004	35,083	145,730	24.07%

\* These numbers could be inflated due to students enrolling in more than one dual credit class.

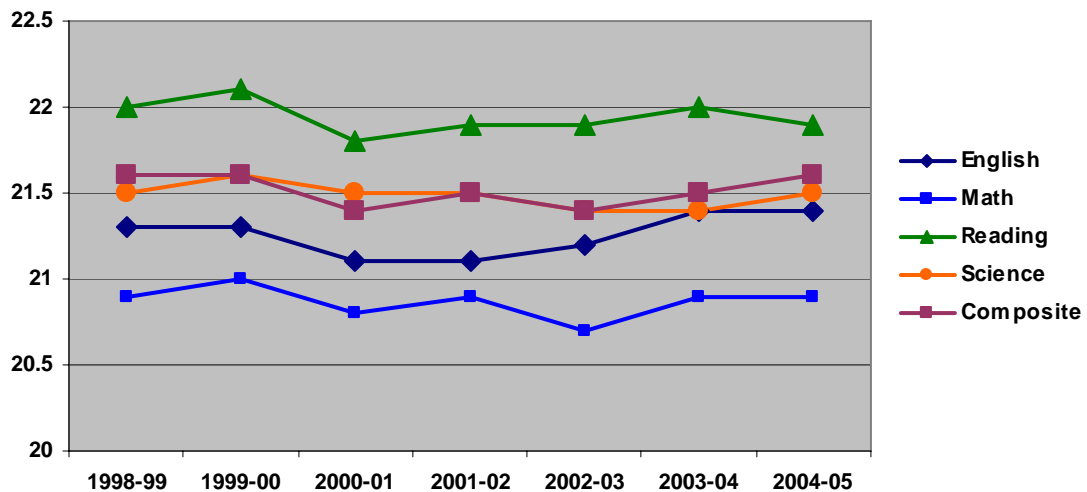
# ACT Scores

The ACT test is a widely accepted college entrance exam that assesses high school students' general educational development and their ability to complete college-level work. The test consists of four multiple-choice tests: English, mathematics, reading, and science.

Percentage of Missouri Students Taking the ACT



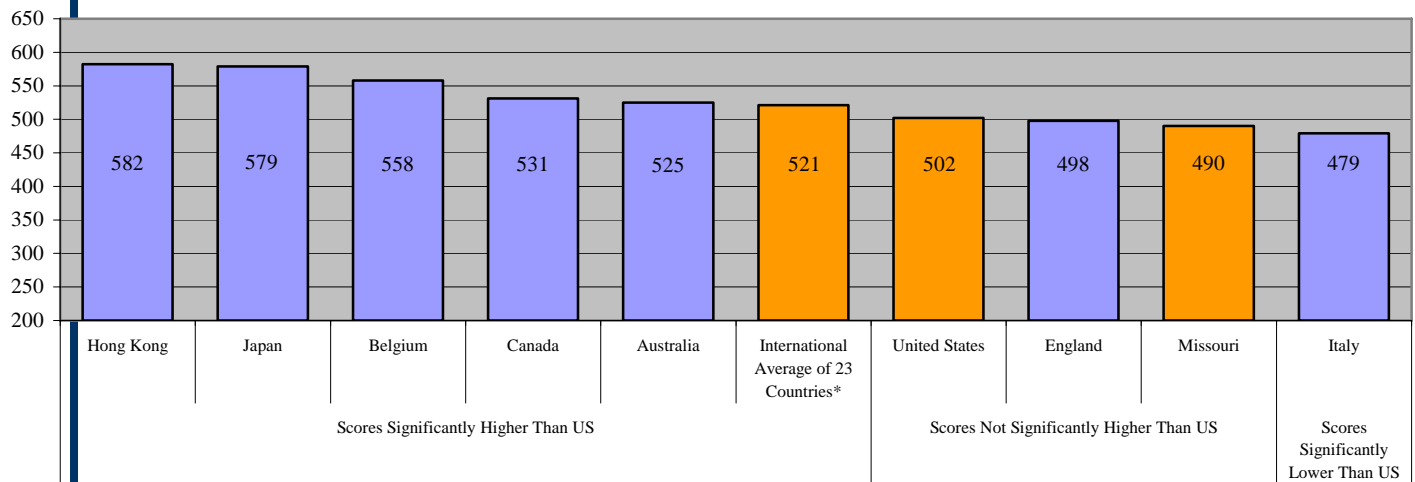
Missouri ACT Scores



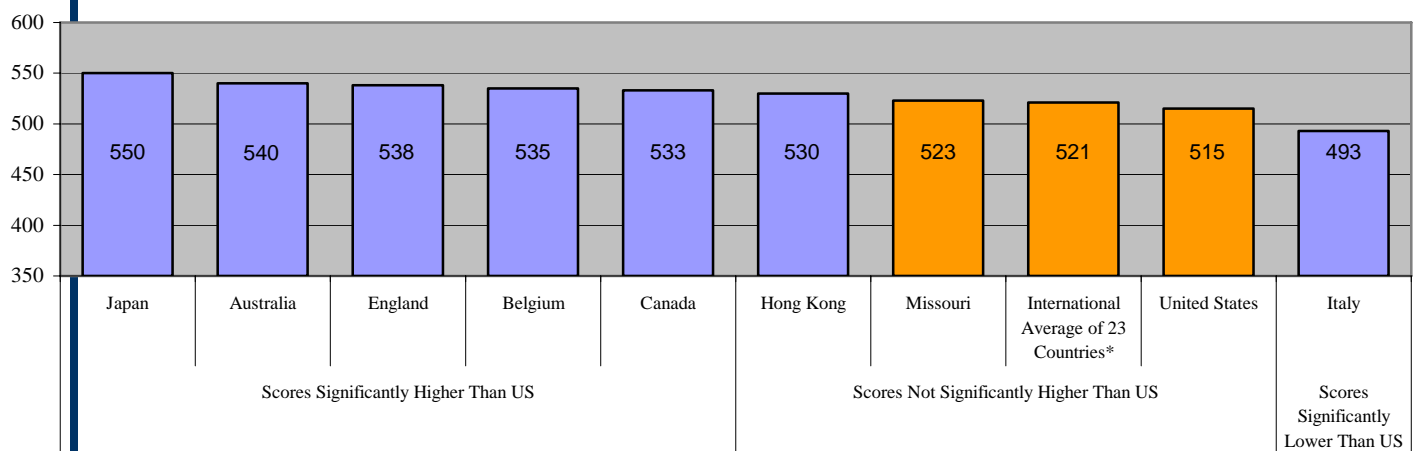
# Global Competition (TIMSS - Math & Science)

The Third International Mathematics and Science Study (TIMSS) is an extensive international investigation of mathematics and science education. The study is sponsored by the International Association for the Evaluation of Educational Achievement (IEA) and funded in the U.S. by the National Science Foundation (NSF) and the National Center for Education Statistics (NCES). Approximately 50 countries participated in this survey of education in mathematics and science.

**Comparison of 8th Grade Math Achievement (1999 TIMSS)**



**Comparison of 8th Grade Science Achievement (1999 TIMSS)**



\* Only 23 of 31 countries that participated in TIMSS and TIMSS-R at the 8th grade level met sampling guidelines in both 1995 and 1999.  
Source: TIMSS International Study Center; Mathematics Benchmarking Report, Science Benchmarking Report (TIMSS, 1999).

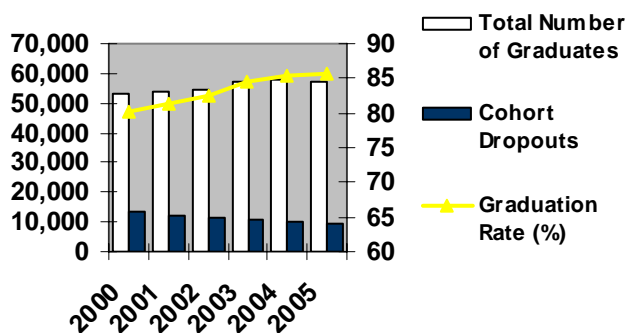


# Graduation Rates

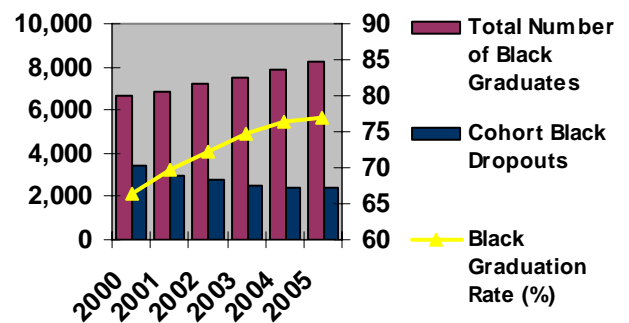
The percentage of high school students that graduate is calculated by taking the total number of graduates and dividing it by the number of cohort dropouts and graduates.

- The Missouri graduation rate has steadily risen from 80.1% in 2000 to the significantly higher rate of 85.7% in 2005.
- The number of Missouri graduates has likewise increased from the 2000 total of 52,852 to 57,495 in 2005.

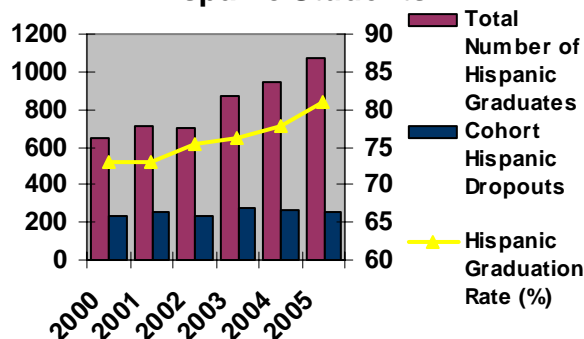
**Missouri Graduation Rates**



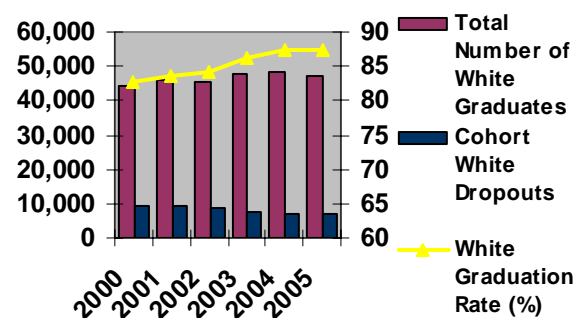
**Missouri Graduation Rates for Black Students**



**Missouri Graduation Rate for Hispanic Students**



**Missouri Graduation Rates for White Students**



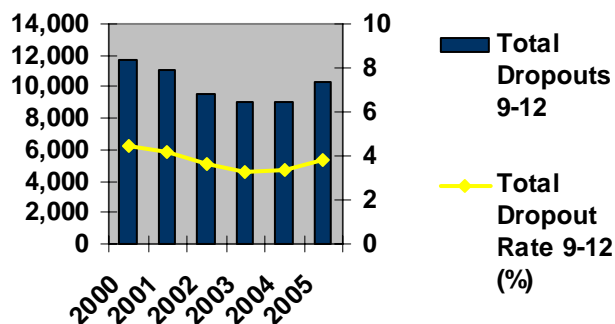
Graduation Rate:  $(\text{Graduates} / (9\text{-}12 \text{ Cohort Dropouts} + \text{Graduates})) \times 100$

# Drop Out Rates

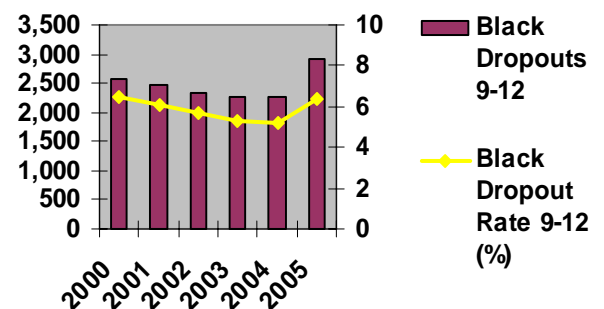
The number of students that drop out of high school is measured by taking the number of students that drop out divided by beginning of the year enrollment (which takes into account transfers) then dividing by two.

- In 2000 the drop out rate for Missouri secondary schools was 4.5% (11,716 students). This number has decreased over the years to a rate of 3.8% in 2005 (10,341 students).

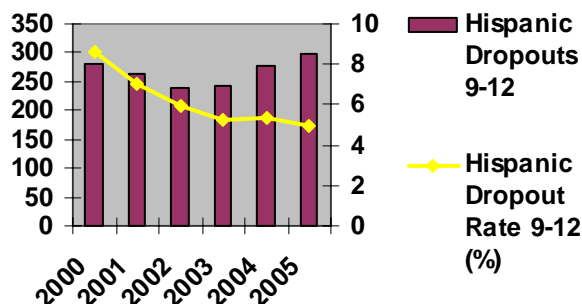
**Missouri Drop Out Rates**



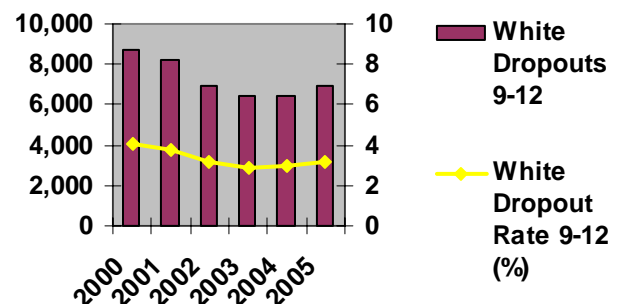
**Missouri Drop Out Rates for Black Students**



**Missouri Drop Out Rates for Hispanic Students**



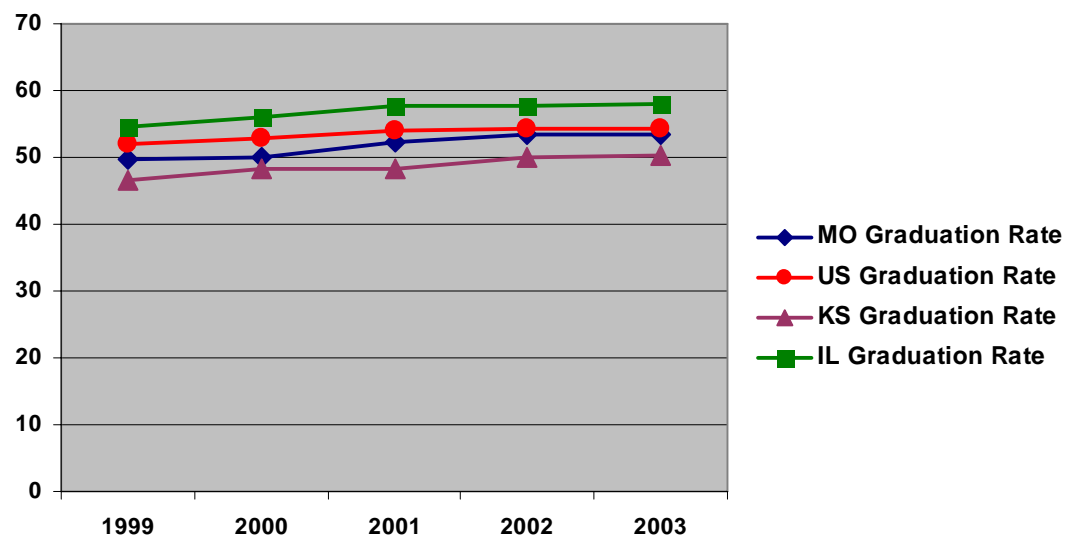
**Missouri Drop Out Rates for White Students**



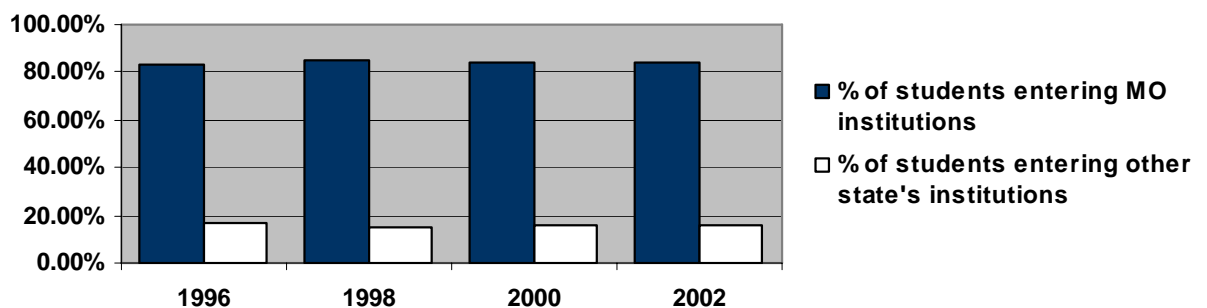
# Students Entering Post-Secondary Education

The number of first-time freshmen from Missouri that attend Missouri institutions indicates whether a state is an importer or exporter of college-going students. States that bring in more students than they export may benefit if out-of-state students stay after graduation. Conversely, if a state exports large numbers of students to other states, they may lose talented young residents if they do not return after graduation. These data include all first-time freshmen – not just those attending directly out of high school.

**Students Completing Post-Secondary Education**



**Percentage of Student's Entering MO Institutions**

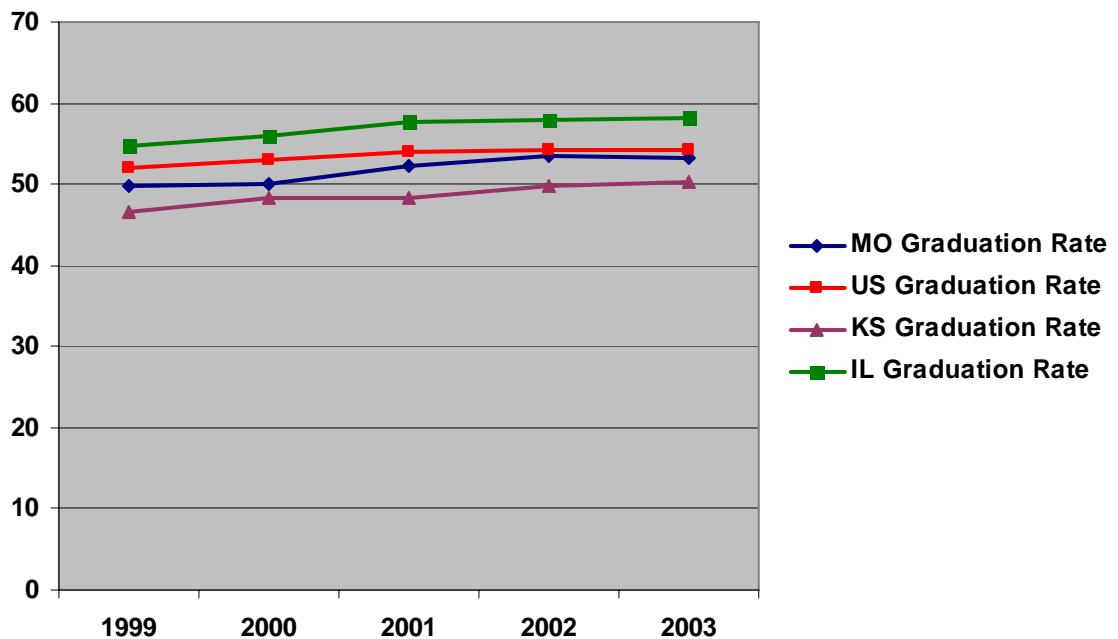


# Students Completing Post-Secondary Education

The percentage of first-time full-time bachelor's degree-seeking students earning a bachelor's degree within six years is a measure of the efficiency with which students complete college. It is also a good measure of how well students persist toward gaining a degree. A high value on this measure benefits a state in two important ways: 1) it leads to higher degree production and a better educated population, and 2) the postsecondary system is functioning better or students are moving through the system at higher rates allowing more room for others to enter. This statistic does not account for transfers across institutions.

- From 1999 to 2003 the percentage of Missouri students completing post-secondary education steadily rose from 49.8% in 1999 to 53.3% in 2003.

Students Completing Post-Secondary Education

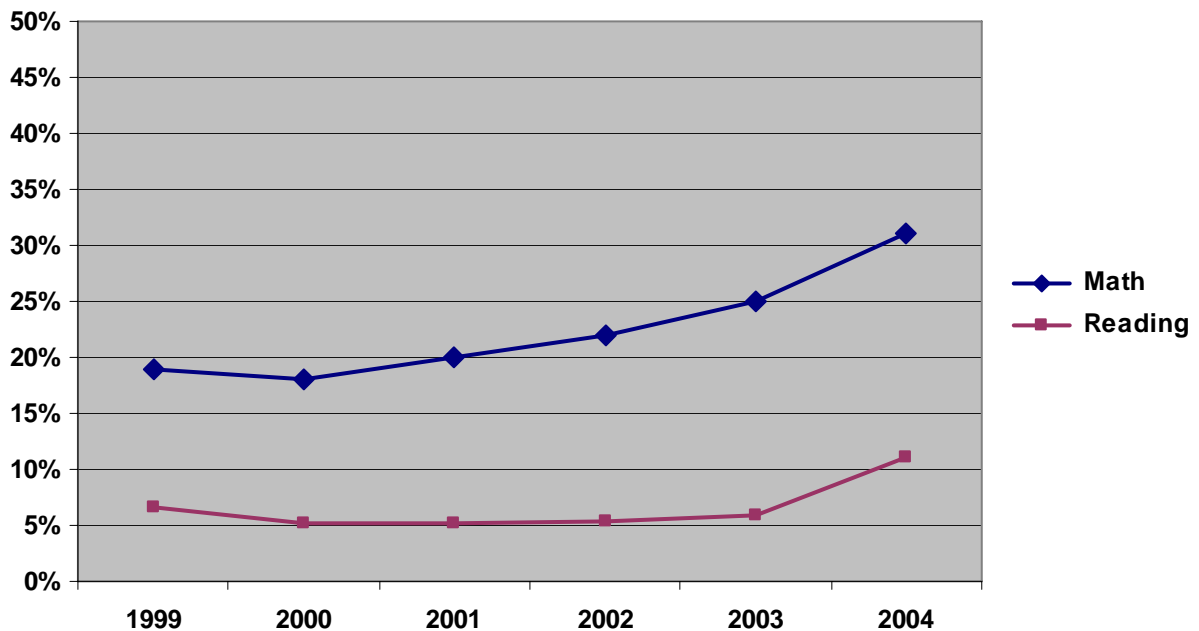


# Remediation Rates

The percentage of students that require remedial classes as they enter public post- secondary institutions is calculated by taking the number of first-time entering freshman enrolled in remedial math and reading classes and dividing it by the total number of first-time entering freshman in public schools.

- The remediation rates for Missouri first-time freshman enrolled in remedial reading classes stayed relatively stable from 1999 to 2003, but sharply increased from 5.9% to 11.0% in 2004.
- Missouri has seen a steady increase in the percentage of first-time freshman enrolled in remedial math courses, from 19% in 1999 to 31% in 2004.

**Percentage of First-time Freshman Enrolled in Remedial Classes at Missouri Public Institutions**

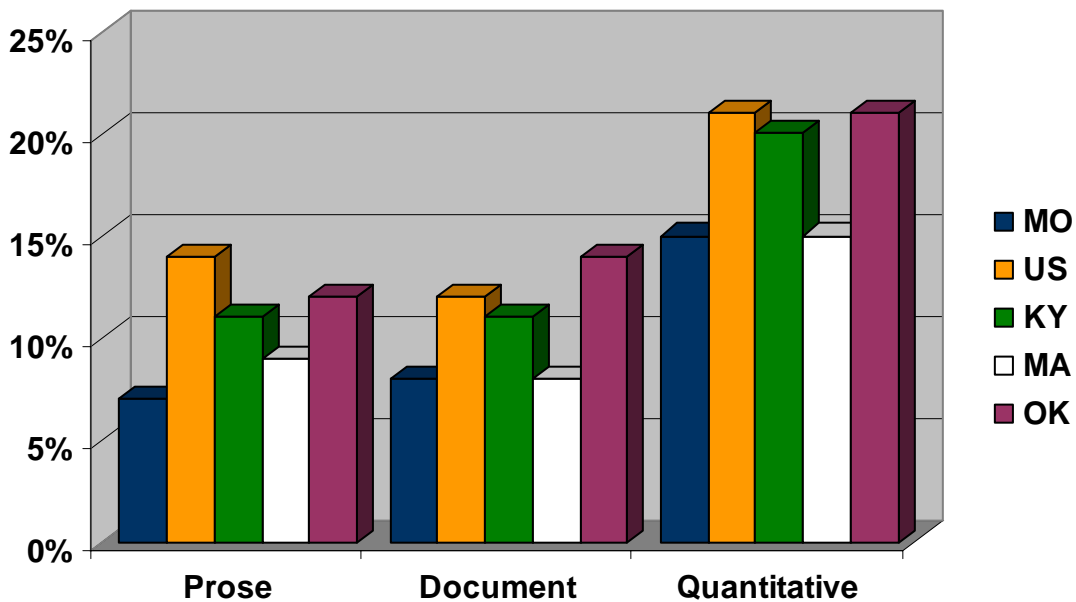


## Adult Literacy Rates

Literacy consists of a variety of skills that develop over the course of an individual's lifetime. Adults that score lowest on three literacy scales (prose, document, and quantitative literacy) are labeled as having *Below Basic Literacy*. Many adults in this category can perform simple tasks involving uncomplicated text and documents. Other adults are unable to complete these types of tasks while others have such limited skills that they cannot respond to a survey.

- In 2003, the percentage of adults in Missouri with Below Basic Prose Literacy was 7%, significantly lower than the national rate of 14%. For adults with Below Basic Document Literacy, Missouri had a rate of 8%, again, significantly lower than the national rate of 12%. The percentage of Missouri adults with Below Basic Quantitative Literacy (15%) was also significantly lower than national levels (21%).

**Average Percentage of Adults with Below Basic Literacy**

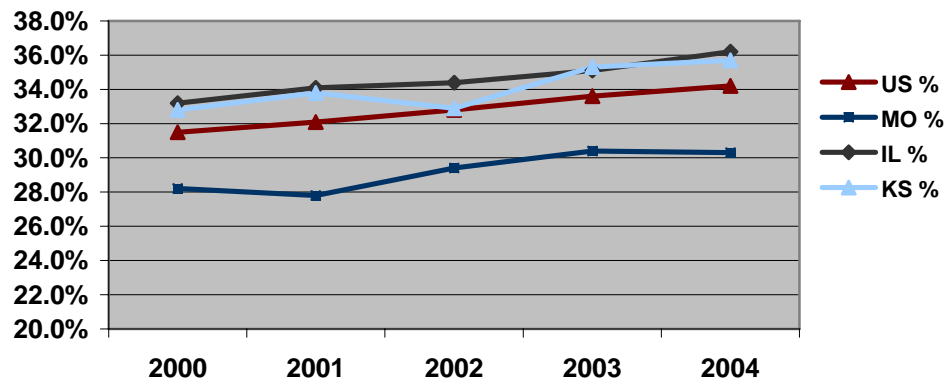


# Education Attainment

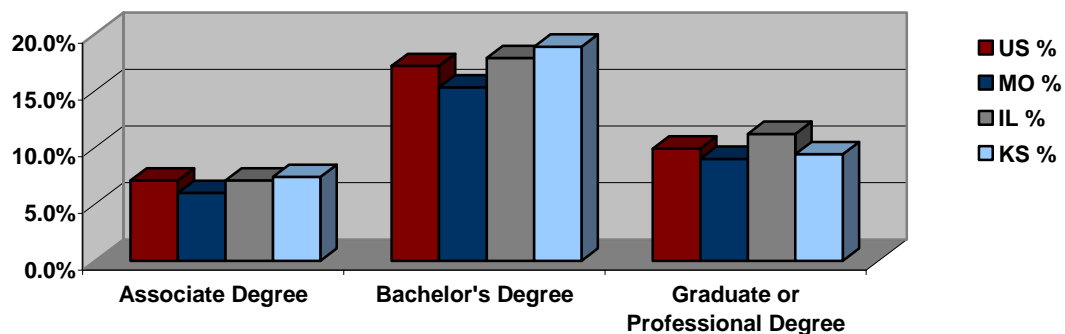
The percentage of adults over the age of 25 with a post-secondary degree is calculated by taking the number of individuals over the age of 25 with a post-secondary degree and dividing it by the overall population over the age of 25.

- The percentage of Missourians over the age of 25 with a post-secondary degree has risen from 2000 (28.2%) to 2004 (30.3%). This increase in post-secondary degrees mirrors national trends during the same period.
- However, Missouri lagged behind national and surrounding state levels of post-secondary degree attainment between 2000 and 2004.

**Education Attainment (All Post-Secondary Degrees)**



**Education Attainment  
(2004 American Community Survey)**

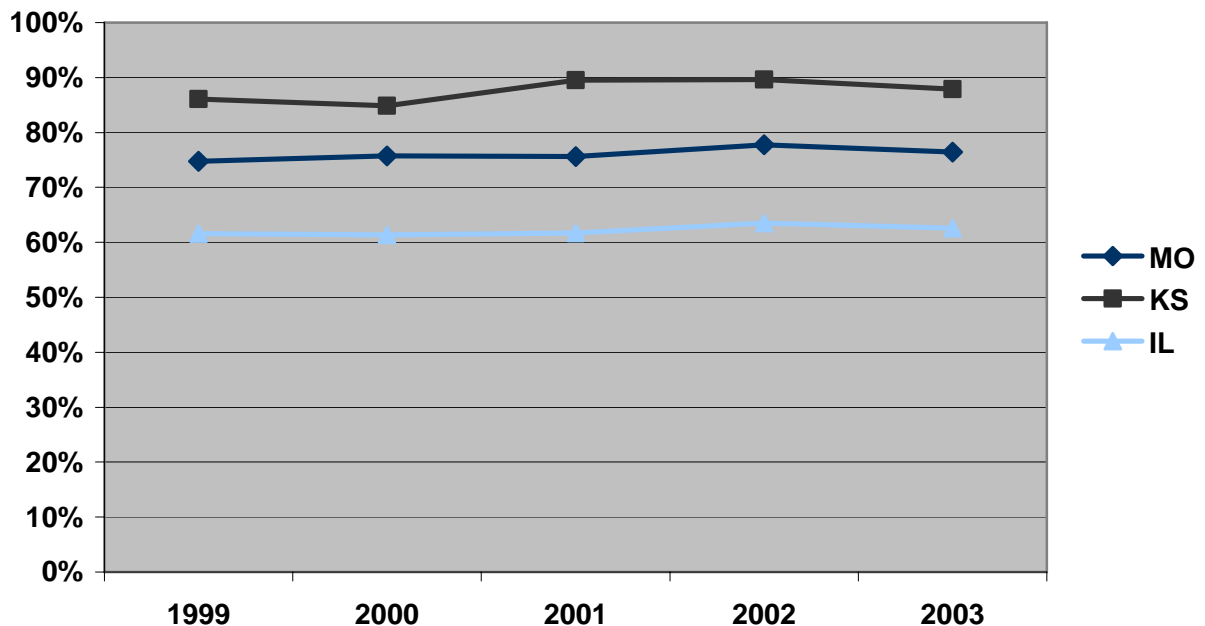


# GED Attainment

The General Educational Development (GED) test consists of five multiple-choice tests that cover reading, mathematics, social studies, science, and writing skills. Most post-secondary institutions and employers accept a GED certificate as being equivalent to a high school diploma. Those who are at least 16 years old and are no longer enrolled in high school are eligible to take the GED test.

- The number of students in Missouri that take the GED has decreased from 1999 (13,821 students) to 2003 (10,834 students). This mirrors declining numbers of GED test takers in surrounding states.
- The percentage of Missouri students that take the GED and pass has risen from 74.7% in 1999 to 76.4% in 2003.

**Percentage of Students Taking GED and Passing**





## IV. Missouri's Career Center Scorecard

The Career Center System Scorecard measures Missouri's Career Center System performance on various Career Center performance measures. Measures such as employer/customer satisfaction, cycle time, and market



penetration reflect the career center system's ability to serve and support the needs of both employer and individual customers. Other measures such as cycle time and employment retention describe the career center system's ability to meet the skill and labor demands of employers and individual customers in a timely manner.

The data show that the Missouri Career Center System's performance is comparable to and, in many cases, better than average national performance on various measures. The employment rates of those adults, dislocated workers and older youth (aged 19-21 years) that entered employment by the end of the first

quarter after exiting the Missouri Career Center System improved from 2003 to 2004 and were above the national averages. The percentage of adults, dislocated workers, and older youth that maintained employment up to the third quarter after exiting was comparable to national percentages in 2004. Likewise, the percentage of younger youth in Missouri that were found in post-secondary education, advanced training, employment, military service, or qualified apprenticeships in the third quarter after exit in 2004 was comparable to national levels.

However, the results also point toward areas of concern. The percentage of all employers that have job openings served through the Missouri's Great Hires registration system in a given year has slightly decreased from 2003 to 2005. Likewise, the percentage of all job seekers that acquire new jobs through the Missouri's Great Hires registration system in a given year has slightly decreased from 2003 to 2005. In addition, both employer and individual satisfaction with the Career Center System declined from 2003 to 2004.

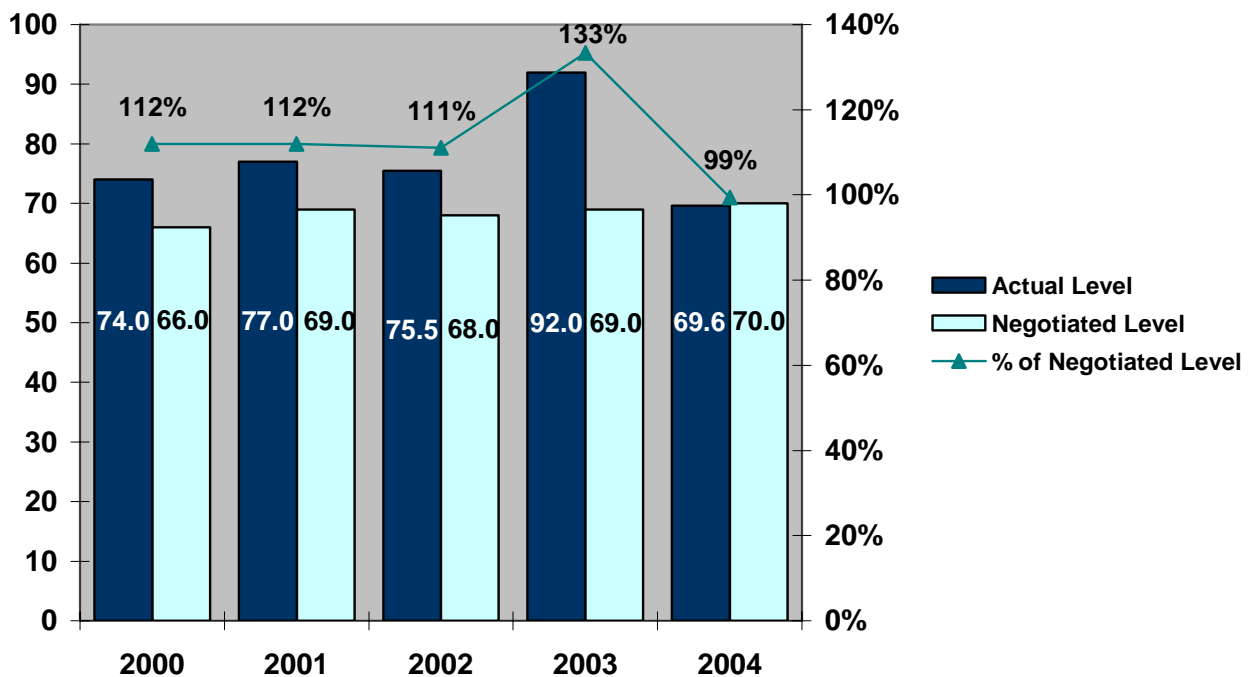
## Outcomes for Employer Customers

### Employer Satisfaction

To meet the customer satisfaction requirements of the Workforce Investment Act, the Workforce Investment System uses customer satisfaction surveys. The surveys are given to a sample of different employer groups in each business quarter. Employer satisfaction is measured by taking the weighted average of employer ratings on each of three questions regarding overall satisfaction, reported on a 0-100 point scale. The score is a weighted average, not a percentage.

- In Missouri, employer customer satisfaction has decreased from 74 in 2000 to 69.6 in 2004, with a large decline in 2004 from 2003.
- The U.S. employer customer satisfaction rate (72.5) was higher than Missouri's rate (69.6) in 2004.

#### Employer Satisfaction with Career Center System

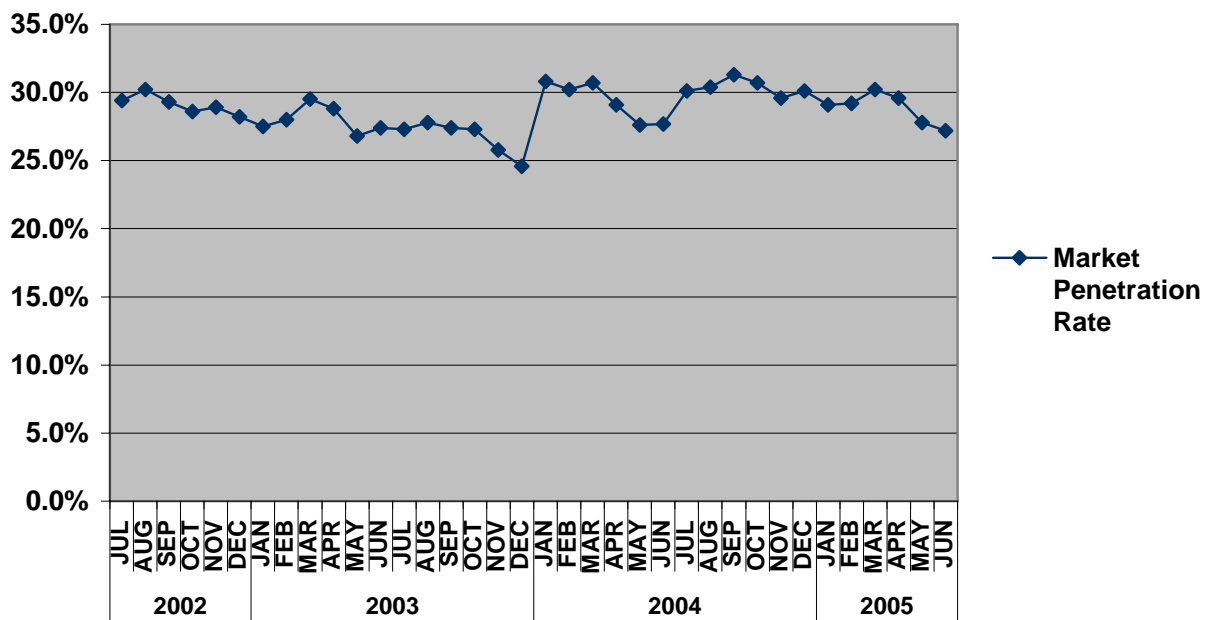


# Market Penetration

The employer market penetration rate is the percentage of all employers with job openings served through the Missouri's Great Hires registration system in a given year.

- In Missouri, the employer market penetration rate has slightly decreased from 27.4% in June of 2003 to 27.2% in June of 2005. The employer market penetration rate averaged 29.6% from July 2004 to June 2005.

**Employer Market Penetration Rate**



# Cycle-Time

Cycle-time is measured by totaling the number of days between the time that a job is listed in the Workforce Investment System and the time that the job is filled through the System.

- Missouri's Workforce Investment System's cycle-time is an average of 21 days for the entire state.
- Different Workforce Investment Act regions have cycle-times ranging from 15 days in the Southwest Region to 24 days in both the Kansas City and Vicinity and Ozark Regions.

Job Order Cycle Time 7/1/04-6/30/05			
Regions	Regional Average	Toolbox Average	Hires Average
<b>Statewide</b>	<b>21</b>	<b>22</b>	<b>20</b>
Northwest Region	23	24	20
Northeast Region	17	17	17
Kansas City & Vicinity	24	22	52
West Central Region	17	16	37
St. Louis City	19	19	22
Southwest Region	15	15	19
Ozark Region	24	24	25
Central Region	23	33	21
South Central Region	19	19	19
Southeast Region	19	19	14
East Jackson County	20	20	17
St. Louis County	19	18	36
St. Charles County	16	16	12
Jefferson/Franklin Consortium	23	23	28

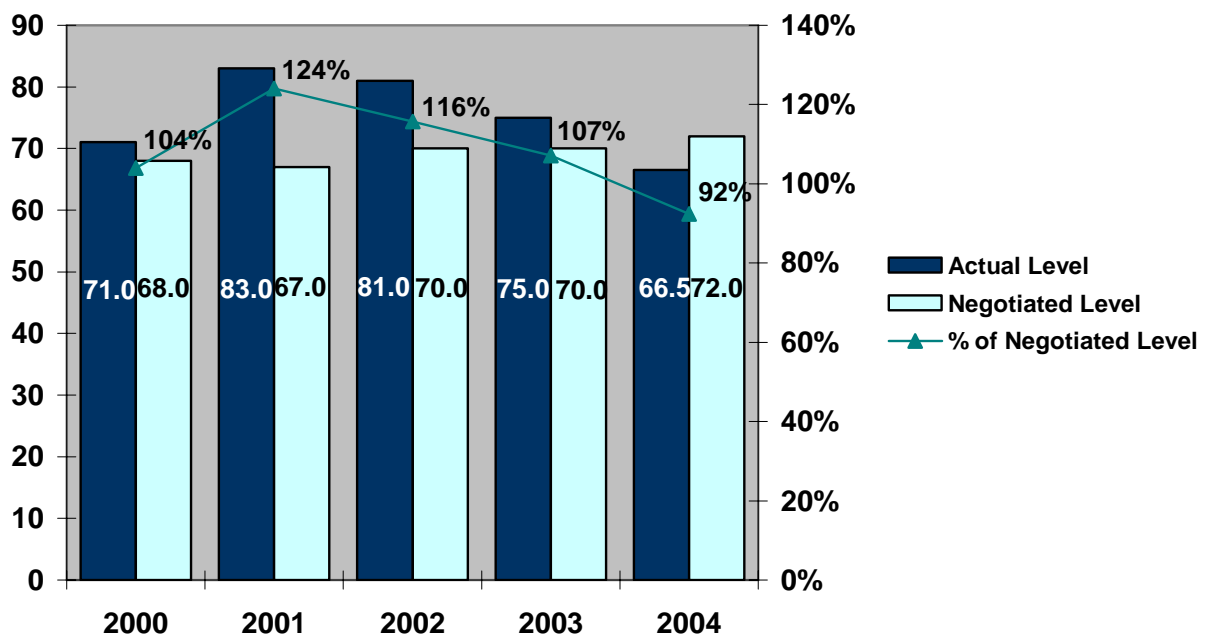
## Outcomes for Individual Customers

### Customer Satisfaction

To meet the customer satisfaction requirements of the Workforce Investment Act, the Workforce Investment System uses customer satisfaction surveys. The surveys are given to a sample of different exit groups in each business quarter. Individual participant satisfaction is measured by taking the weighted average of participant ratings on each of three questions regarding overall satisfaction which are reported on a 0-100 point scale. The score is a weighted average, not a percentage.

- In Missouri, individual customer satisfaction has decreased from an average score of 71 in 2000 to 66.5 in 2004.
- In 2004 the U.S. had slightly higher levels of customer satisfaction (76.8) than Missouri (66.5).

Individual Customer Satisfaction with Career Center System

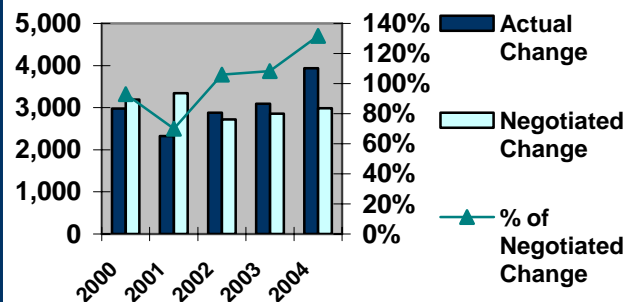


# Increased Earnings

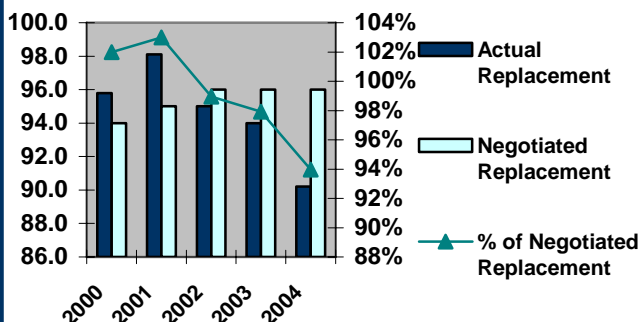
The average earnings change is measured by taking an individual's total post-program earnings (earnings in Quarter 2 + Quarter 3 after exit) minus pre-program earnings (earnings in Quarter 2 + Quarter 3 prior to registration) divided by the number of adults who exit during the quarter. The *adults* measure only includes adults employed in the first quarter after exiting the system. The *dislocated workers* measure is a rate that includes dislocated workers, employed in the first quarter after exit, using the individual's last day of employment instead of date of registration. The *older youth* measure includes those who are employed in the first quarter after exit and who are not enrolled in post-secondary education or advanced training in the third quarter after exit.

- Earnings change in six months for both adults and older youth have increased from 2000 to 2004 and the adult earnings change was higher than the national rate in 2004.
- The earnings replacement rate for dislocated workers has decreased from 95.8% in 2000 to 90.2% in 2004 and was below the national rate of 92.7%.

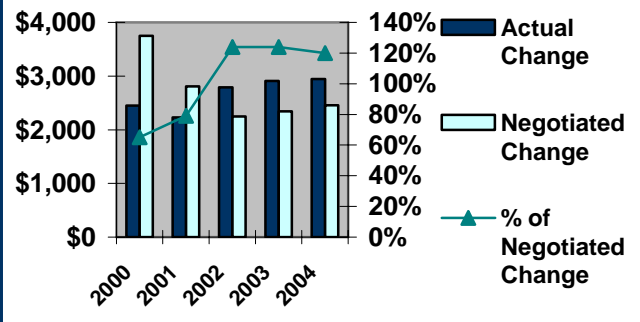
**Earnings Change in Six Months (Adults)**



**Earnings Replacement in Six Months (Dislocated Workers)**



**Earnings Replacement in Six Months (Older Youth)**

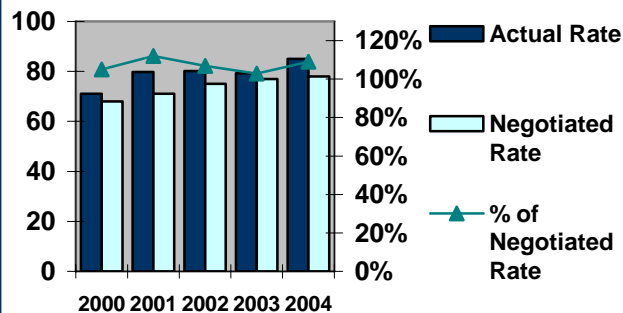


# Entered Employment Rate

The entered employment rate is calculated by taking the number of individuals that have entered employment by the end of the first quarter after exit divided by the number of individuals that exit during the first quarter.

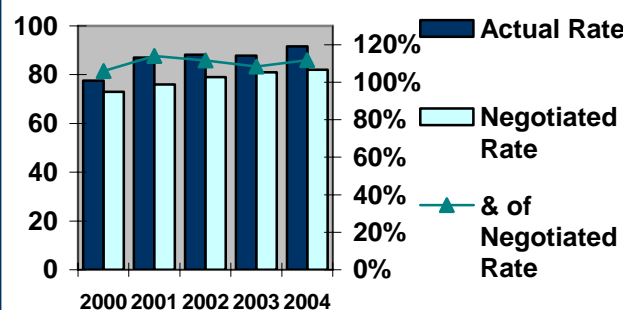
Adults who are employed at the time of registration are excluded from this measure. All dislocated workers are included in this measure. Older youth who are employed at registration or not employed but are in only post-secondary education or advanced training in the first quarter after exit are also excluded from this measure.

**Entered Employment Rate (Adults)**

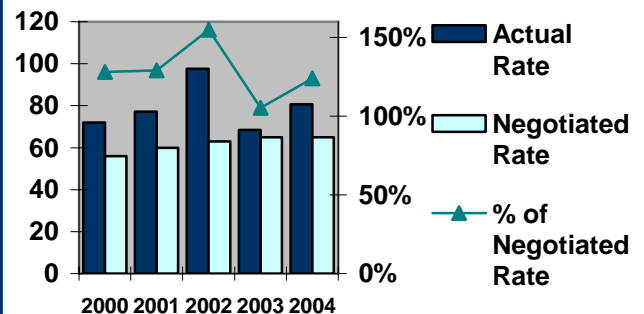


- In Missouri, the entered employment rate for adults and dislocated workers has increased from 2000 to 2004.
- The entered employment rate for older youth in Missouri has improved from 71.9% in 2000 to 80.6% in 2004.
- All three categories in Missouri had higher rates than the U.S. average in 2004.

**Entered Employment Rate (Dislocated Workers)**



**Entered Employment Rate (Older Youth)**

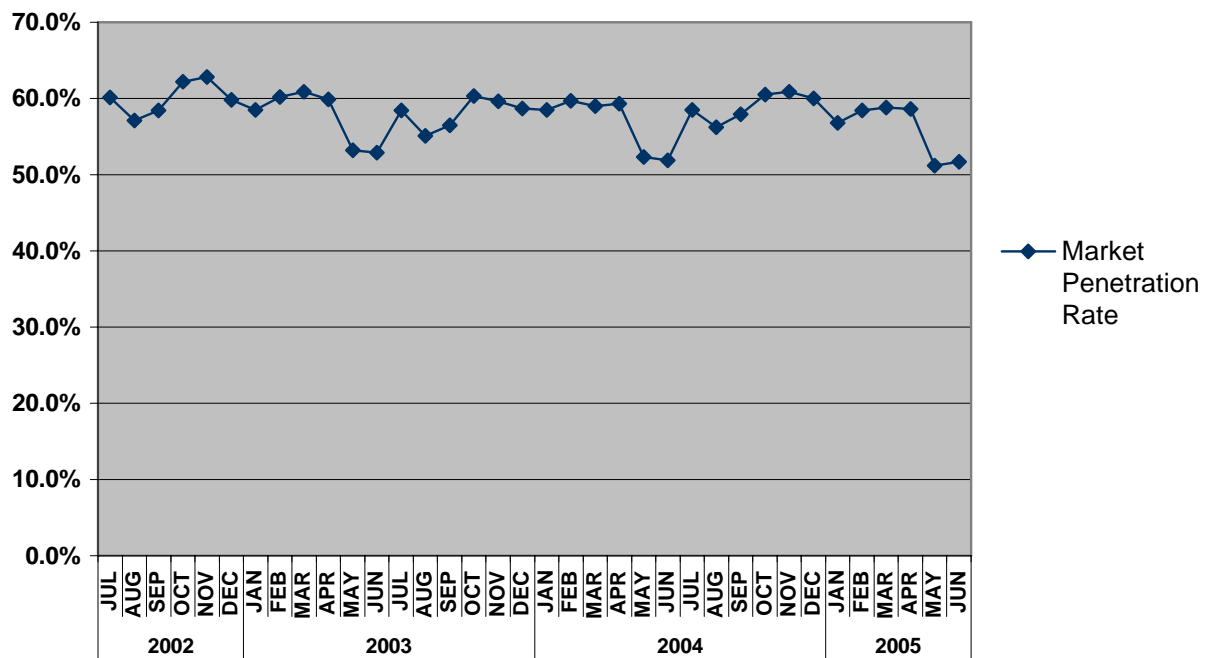


# Market Penetration

The individual customer market penetration rate is the percentage of all job seekers that acquire new jobs that are served through the Missouri's Great Hires registration system in a given year.

- In Missouri, the customer market penetration rate has been trending slightly downward. The customer market penetration rate decreased slightly from 52.9% in June of 2003 to 51.7% in June of 2005. Overall, the rate averaged 57.5% from July 2004 to June 2005.

**Customer Market Penetration Rate**

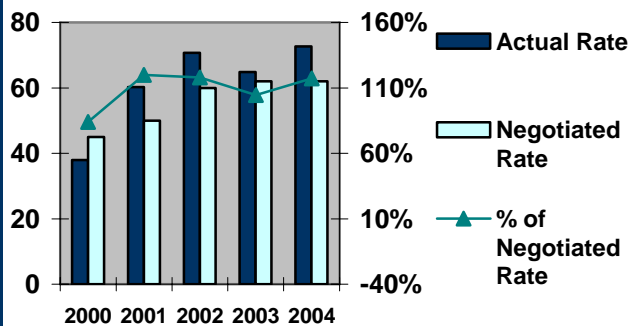




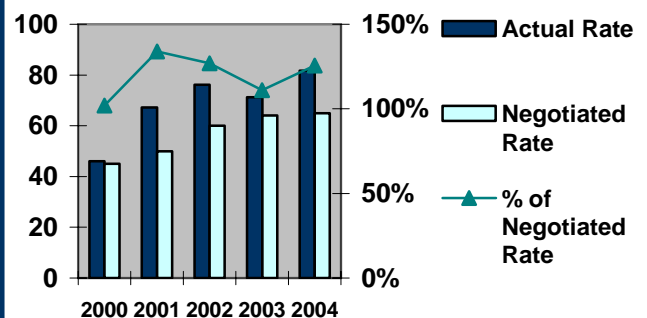
# Training-Related Credential

The employment and credential rate for adults and dislocated workers is calculated by taking the number of individuals that were employed in the first quarter after exit and received a credential by the end of the third quarter after exit divided by the number of individuals who exited services during the quarter. Only adults and dislocated workers who received training services are included. The credential rate for older youth is calculated by taking the number of older youth in employment, post-secondary education, or advanced training in the first quarter after exit and received a credential by the end of the third quarter after exit divided by the number of older youth who exit during the quarter. The diploma or equivalent rate for younger youth is calculated by taking the number of younger youth who attained secondary school diploma or equivalent by the end of the first quarter after exit divided by the number of younger youth who exit during the quarter (except those still in secondary school at exit).

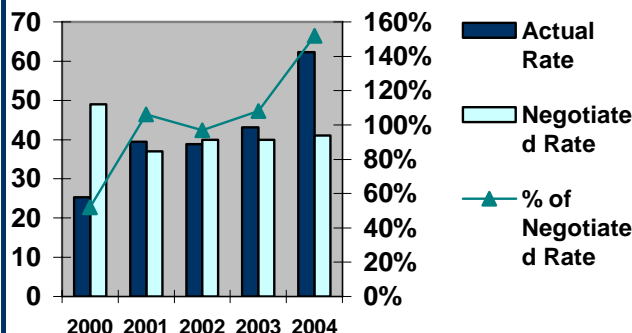
**Employment & Credential Rate (Adults)**



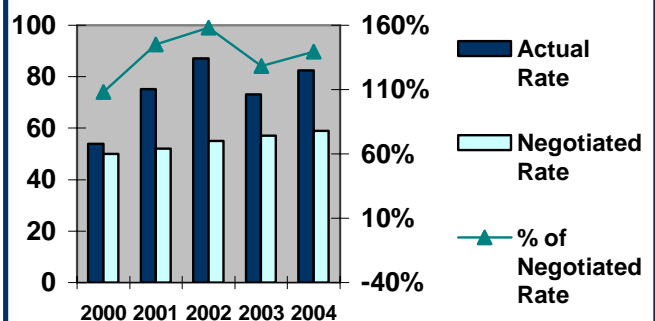
**Employment & Credential Rate (Dislocated Workers)**



**Credential Rate (Older Youth - age 19-21)**



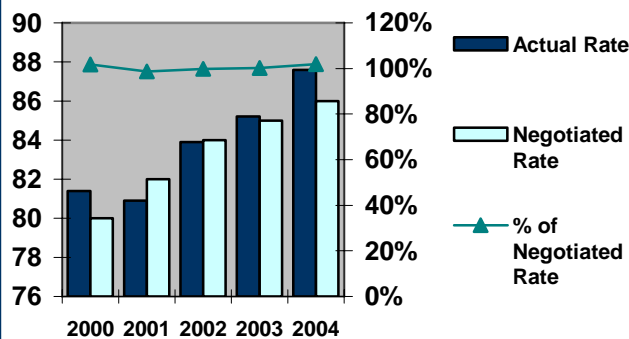
**Diploma or Equivalent Rate (Younger Youth - age 14-18)**



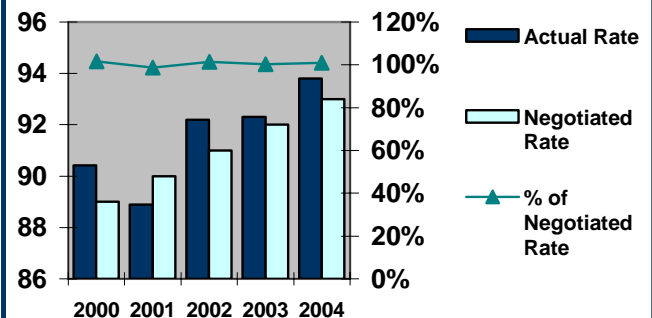
# Employment Retention

The employment retention rates for adults and dislocated workers are calculated by taking the number of adults or dislocated workers employed in the third quarter after exit divided by the number of adults or dislocated workers who exit during the quarter. Only those adults and dislocated workers employed in the first quarter after exit are included in the measure. The employment retention rate for older youth is calculated similarly to the adult and dislocated worker rates but includes only those older youth who are employed in the first quarter after exit and who are not enrolled in post-secondary education or advanced training in the third quarter after exit. The younger youth retention rate is calculated by taking the number of younger youth found in post-secondary education, advanced training, employment, military service, or qualified apprenticeships divided by the number of younger youth who exit during the quarter.

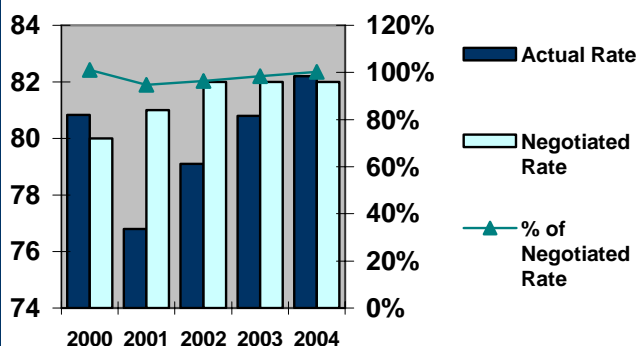
### Retention Rate (Adults)



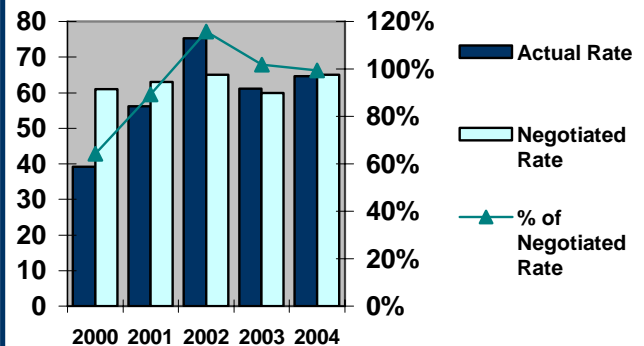
### Retention Rate (Dislocated Workers)



### Retention Rates (Older Youth)



### Retention Rate (Younger Youth)



## V. Implications & Summary

An increasingly knowledge-based and technology-driven economy is emerging in the 21<sup>st</sup> century. The Workforce Investment System in Missouri plays a critical role in advancing acquisition of the advanced knowledge and skills needed for both individuals and businesses to be competitive in this new economy. To that end, the Workforce Investment System is in the process of being reformed and revitalized in order to meet such demands.

The results of this Workforce Investment System Performance Scorecard report are somewhat mixed in terms of where Missouri's Economic, Education, and Career Center systems are in relation to the rest of the nation, and in some cases, the world. The data show that Missouri has an extremely diverse mix of industries when compared to the most diverse of economies, the national economy. Despite this array of industries, the state's economy has felt the impact of the national recession in terms of a declining median household income, increasing unemployment and poverty rates since 2000, all of which seem to be consistent with national economic trends. Good signs of economic recovery are also shown with the data. The value of goods and services produced in the state (GSP) has grown at a rate matching the national economy at a time when over half of the other states have seen a decline in GSP. The number of non-violent crimes reported in the state has also decreased over the past few years.

The report also shows that the state's education system is showing improvement in many areas. Enrollment of high school students in AP and dual credit courses has steadily risen from 2000 to 2005. Other areas of strong improvement in the education system include the number of students in Missouri that complete their post-secondary education, which has steadily increased from 1999 to 2003.

Despite the improvement in our schools, the data does indicate that certain areas in education still need our attention. Missouri student scores on the MAP have risen from 2003 to 2005 for two grade levels. However, the percentage of students that have reached the mandated level of proficiency for their age group is still less than desirable.

## Implications & Summary (cont.)

Another area of concern pertains to the percentage of first time entering freshman in Missouri public institutions that are enrolled in remedial math and reading classes. From 1999 to 2005 the percentage of students enrolled in remedial math classes has increased from 19% to 31%.

The data show that the Missouri Career Center System's performance is comparable to and, in many cases, better than average national performance on various measures. The percentage of adults, dislocated workers, and older youth (aged 19-21 years) that maintained employment up to the third quarter after exiting the Missouri Career Center System was comparable to national percentages in 2004. The number of adults, dislocated workers, and younger youth (aged 14-18 years) that utilize the Missouri Career Centers that go on to receive a credential or attain a secondary school diploma or equivalent after exiting the system were also comparable to national levels in 2004. However, the results also point toward areas that the Career Center System should be concerned with. The percentage of all employers with job openings served through the Missouri's Great Hires registration system in a given year has slightly decreased from 2003 to 2005. In addition, both employer and individual satisfaction with the Career Center System declined from 2003 to 2004.

As noted in the Missouri State of the Workforce Report (2004) Missouri has much work to do to build a workforce with the skills required to assist their employers to compete in the 21st Century economy. The key to Missouri's continued success will be its ability to effectively integrate the actions of the business, education and workforce sectors. While efforts are underway to work toward common goals, the linkages between the three sectors must be accentuated and leveraged for success. Missouri is focused on the needs of business and a culture of life-long learning (skill refinement) is emerging. Adaptive systems are being designed to provide more meaningful information for individuals (a broader set of career options) and for businesses (enhanced market and workforce data).

## Implications & Summary (cont.)

To that end, the Missouri Training and Employment Council have made several recommendations. First, the percentage of citizens who are highly literate (reading, comprehension and math skills at the 11th grade level or above) must increase significantly. To be competitive in the new economy, the workforce must have strong basic skills and have the capacity to benefit from training.

The Missouri Training and Employment Council has identified recommendations to expand participation in literacy programs: the State must provide strong support for an education continuum of pre-school through higher education, literacy instruction should be embedded in all adult training programs, a common workforce readiness credentialing system for Missouri must be promoted, Missouri Career Centers must assist in identifying those in need of literacy training, and support efforts by the State's higher education institutions in developing and promoting literacy improvement programs in the communities they serve.

High school graduation requirements need to be more rigorous and should include a nationally recognized work-readiness certification. This initiative must be linked with a more proactive policy to strengthen teacher preparedness. Adults should also be engaged in continuous learning (skills development). Career education and the community/technical college system must be expanded and curricula targeted to the just-in-time skill standards, certifications, or licensing requirements of business and industry. Uniform articulation and dual credit mechanisms must be established between and among secondary schools, community college, and university levels to provide degree credit for skill-based education and training.

Missouri's workforce development system should strive to increase the labor force participation of those persons traditionally underserved by Missouri's labor market; specifically persons of low-income, women, ex-offenders, at-risk youth, young minority males, and persons with disabilities. Missouri must initiate a greater interagency effort to link separate programs into a continuum of integrated services, supported by

## Implications & Summary (cont.)

mentoring and individual-based support services, to enable clients to participate in skills-based training and/or employment retention programs. In addition, community and technical colleges must be highly responsive to the short-term and just-in-time training needs of business and industry. Such responsiveness will assist both the business and the individuals being trained. A public awareness campaign is needed to raise Missourians' aspirations and expectations for education and training and their relation to economic survival and growth. States are where they are in terms of education, literacy, lifelong learning, and economic conditions because of individual and organizational behaviors. Those behaviors are shaped by perceptions of what is important and has value. The only way behaviors will change is if perceptions are changed.

## VI. Sources

### Economic Scorecard

Poverty Rate - U.S. Census Bureau, Current Population Survey (Historical Tables), [www.census.gov](http://www.census.gov).

Wage Gain - U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages, [www.bls.gov](http://www.bls.gov).

Median Household Income - U.S. Census Bureau, Current Population Survey, [www.census.gov](http://www.census.gov).

Industry Diversity - U.S. Bureau of Labor Statistics, Current Employment Statistics, [www.bls.gov](http://www.bls.gov).

Value of Goods and Services Exported - World Institute for Strategic Economic Research (WISER), [www.wisertrade.org](http://www.wisertrade.org).

Gross State Product – U.S. Bureau of Economic Analysis, [www.bea.doc.gov](http://www.bea.doc.gov).

New Businesses Established – U.S. Census Bureau, Statistics of U.S. Businesses (SUSB), [www.census.gov/csd/susb/susb.htm](http://www.census.gov/csd/susb/susb.htm).

Businesses Declaring Bankruptcy – Administrative Office of U.S. Courts, [www.uscourts.gov/bnkrpctystats/bankruptcystats.htm](http://www.uscourts.gov/bnkrpctystats/bankruptcystats.htm).

Permanent Job Loss - U.S. Census Bureau, Local Employment Dynamics, [lehd.dsd.census.gov/led/00](http://lehd.dsd.census.gov/led/00).

New Job Creation - U.S. Census Bureau, Local Employment Dynamics, [lehd.dsd.census.gov/led/00](http://lehd.dsd.census.gov/led/00).

Total Labor Force Participation - U.S. Census Bureau, Current Population Survey, [www.census.gov](http://www.census.gov).

## Sources (cont.)

Unemployment Rate – U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS), [www.bls.gov/lau/](http://www.bls.gov/lau/).

Non-Violent Crime – U.S. Federal Bureau of Investigation, Uniform Crime Reports, [www.fbi.gov](http://www.fbi.gov).

### Education Scorecard

MAP Scores in K-12 (Communication Arts & Math) – Missouri Dept. of Elementary and Secondary Education (DESE), Annual Report of School Data, [dese.mo.gov/schooldata/](http://dese.mo.gov/schooldata/).

Students Enrolled in AP Classes – The College Board, [www.collegeboard.com](http://www.collegeboard.com).

ACT Scores (Subscale Scores) - Missouri Dept. of Elementary and Secondary Education, Core Data, [dese.mo.gov/schooldata/](http://dese.mo.gov/schooldata/).

TIMSS Scores (Math & Science) – Third International Mathematics and Science Study, Mathematics Benchmarking Report (TIMSS, 2003), Science Benchmarking Report (TIMSS, 2003), [ustimss.msu.edu](http://ustimss.msu.edu).

Graduation Rates (Secondary) - Missouri Dept. of Elementary and Secondary Education, Core Data, [dese.mo.gov/schooldata/](http://dese.mo.gov/schooldata/).

Drop Out Rates (Secondary) - Missouri Dept. of Elementary and Secondary Education, Core Data, [dese.mo.gov/schooldata/](http://dese.mo.gov/schooldata/).

Student Entering Post-Secondary Education - Postsecondary Education Opportunity Data, referenced at the National Center for Higher Education Management Systems website, [www.higheredinfo.org](http://www.higheredinfo.org).



## Sources (cont.)

Students Completing Post-Secondary Education – National Center for Education Statistics, IPEDS Completion Survey, <http://nces.ed.gov/ipeds/>.

Remediation Rates (Reading & Math) – Missouri Dept. of Higher Education, EMAS Data.

Adult Literacy Rates - National Center for Education Statistics, National Assessment of Adult Literacy Survey, <http://nces.ed.gov/>.

Education Attainment – U.S. Census Bureau, Decennial Census Survey, [www.census.gov](http://www.census.gov).

GED Attainment - GED Annual Statistical Reports, GED Testing Service, American Council on Education, [www.acenet.edu](http://www.acenet.edu).

### **Career Center System Measures & Indicators**

#### Outcomes for Employer Customers

Employer Satisfaction – U.S. Department of Labor, Employment & Training Administration, WIA State Annual Reports & Summaries, [www.doleta.gov](http://www.doleta.gov).

Market Penetration – Missouri Department of Workforce Development Planning & Research Group.

Cycle-Time – Missouri Department of Workforce Development Planning & Research Group.

#### Outcomes for Individual Customers

Customer Satisfaction – U.S. Department of Labor, Employment & Training Administration, WIA State Annual Reports & Summaries, [www.doleta.gov](http://www.doleta.gov).

## Sources (cont.)

Increased Earnings – U.S. Department of Labor, Employment & Training Administration, WIA State Annual Reports & Summaries, [www.doleta.gov](http://www.doleta.gov).

Entered Employment Rate – U.S. Department of Labor, Employment & Training Administration, WIA State Annual Reports & Summaries, [www.doleta.gov](http://www.doleta.gov).

Market Penetration – Missouri Department of Workforce Development Planning & Research Group.

Training Related Credential – U.S. Department of Labor, Employment & Training Administration, WIA State Annual Reports & Summaries, [www.doleta.gov](http://www.doleta.gov).

Employment Retention – U.S. Department of Labor, Employment & Training Administration, WIA State Annual Reports & Summaries, [www.doleta.gov](http://www.doleta.gov).

## VII. Acknowledgements

Reporting by  
Mary E. Bruton, Workforce Analysis Manager  
Veronica Gielazauskas, Planner  
January 2006

Contributions in the development and editing of the Workforce Investment System Performance Scorecard were made by: Rod Nunn, Rose Marie Hopkins, Mike Waltman, Zhou Wei, and Tom Ogle.



[www.MissouriEconomy.org](http://www.MissouriEconomy.org)



[www.GreatHires.org](http://www.GreatHires.org)